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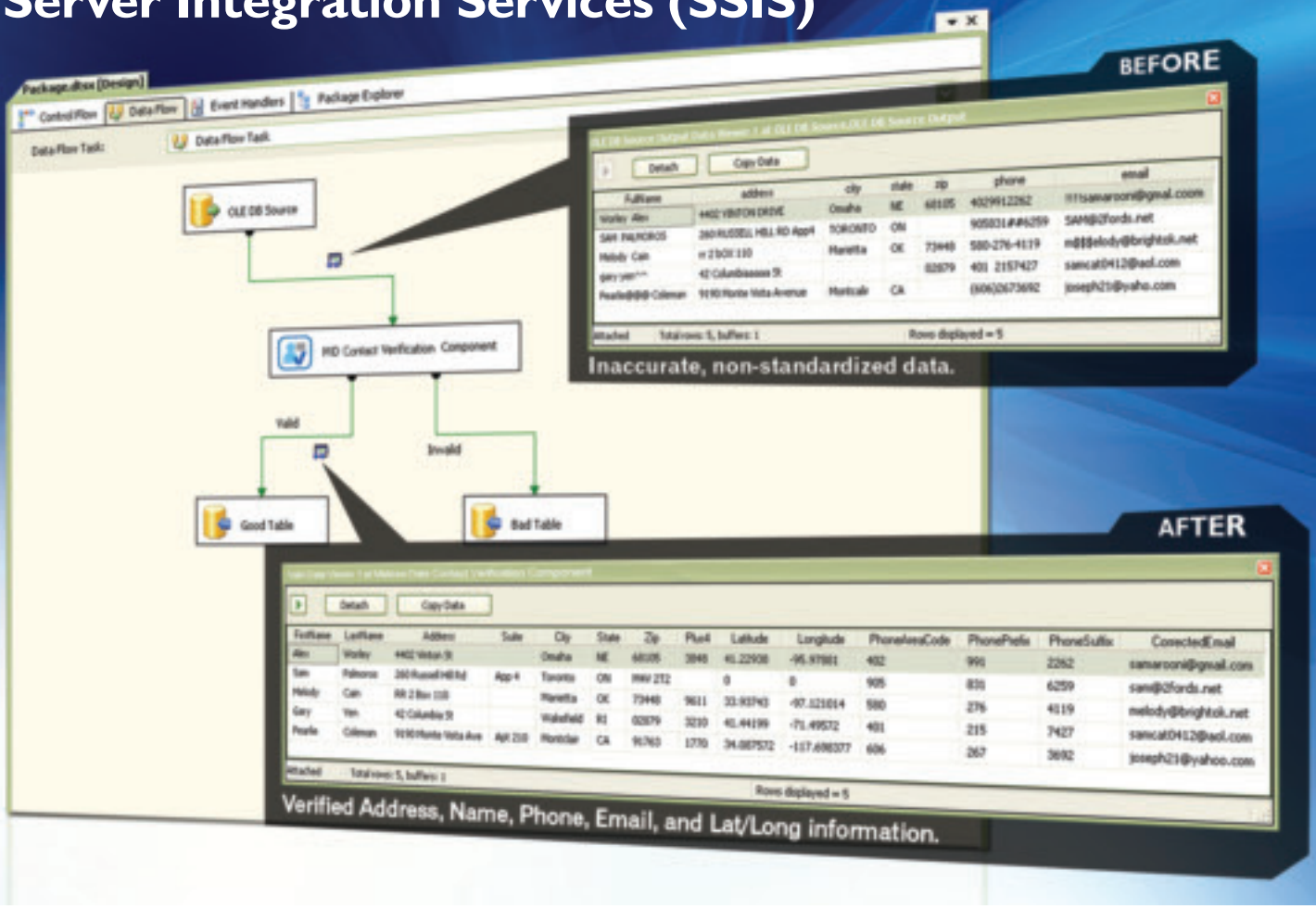

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FROM THE EDITORS

Windows Phone's mighty ecosystem

You've seen the stats: Google's Android is the best-selling smartphone platform, followed closely by Apple's iOS. Microsoft's Windows Phone is a distant follower, and RIM's BlackBerry is fading away.

Don't count Microsoft out so fast. The company enjoys several advantages that none of its competitors can challenge. Microsoft knows how to woo developers, including large ISVs and small startups. Microsoft understands enterprise IT. Windows runs on most desktops and notebooks.

Those are all true, but as our special report on the Microsoft tools ecosystem points out (see p. 30), that's only part of the story. No company—none—has the breadth of tool partners that Microsoft offers through Visual Studio and Team Foundation Server.

Make no mistake: All three of what we consider the most promising smartphone platforms—Android, iOS and Windows Phone—have powerful IDEs that developers like. Android developers build software in Java using Eclipse; iOS developers program in Objective-C with Xcode; Windows developers of all stripes use Visual Studio and languages like C# and Visual Basic.

All three are powerful IDEs, and Eclipse in particular offers a fantastic range of add-ins, add-ons, plug-ins and integrations. But Visual Studio has them all beat.

Not only that, but the for-profit nature of Microsoft's Visual Studio team lets the company embrace third-party providers in a way that the not-for-profit Eclipse Foundation can't hope to match. (It doesn't hurt that Microsoft's Visual Studio and Windows teams report to the same shareholders, while the Eclipse Foundation, Oracle's Java Community Process and Google's Android Developers are three independent organizations.)

We predict that the mobile wars will gel into a three-horse race, at least when it comes to smartphones. (We don't foresee any significant challenge to the iPad on the tablet front for some time; Microsoft isn't going there, and Android lacks a clear message.)

• Android will sell more units, in large part due to the broad base of carriers and handset makers, which will drive prices low. And, of course, there's a new Android phone appearing every week.

• Apple will offer the high-status hardware and arguably the greatest reliability, but the walled garden and lack of hardware diversity will restrain its growth.

• Boosted by developer enthusiasm and its strong tools ecosystem, Microsoft will eventually get its bearings. It may take a couple of years, but Microsoft will prove a formidable challenger.

What about Metro? It's unclear whether having the same user experience (or what superficially appears to be the same user experience) on the phone and desktop is what consumers want. Microsoft tried it one way, by putting the desktop Windows Start button onto Windows Mobile. That didn't work. Now it's pushing the phone user interface back onto the desktop with the Metro graphical shell.

Will customers like it? No way of telling, especially since customers won't get Windows 8 for a long time. Visual Studio tool providers, of course, are hedging their bets and are starting to support the new UI metaphor. But for now, the growth opportunity in the Microsoft ecosystem is Windows Phone. ▮

Java's made a comeback

How did Java ever fall so far behind? Was it entirely Sun's fault? Can the Java Community Process be blamed? Does it even matter anymore? The truth is, rhetorical questions like that don't matter now that Java is back and full of life once again.

From the drastic changes planned for Java ME, to the sweeping revisions of the JCP, it certainly looks like 2012 will be a year full of major changes to Java. Why, Oracle's road map even calls for the addition of functional language capabilities, such as closures, sometime next fall. That's functionality that's also new to C++11, meaning the two languages will essentially be on par with one another for the first time in years.

Who knew that Oracle would be just about the best prescription for what ailed Java? With its deep pockets and ruthless dedication to making money, the company has clearly figured out exactly what was wrong with Java and has decided to fix it. That's not to say every new aspect of Java is guaranteed success, or that every change Oracle is promising will be on time and implemented perfectly—or even close to perfectly. But after years of neglect and ruin (thanks to Sun's inability to make any real money on the platform), Java is becoming a first-class language again.

We just hope that Oracle and the JCP don't stall out of this new steep climb for the skies. If they can keep this up, Java should remain an exciting and vibrant language for many decades to come. That's good news for everyone involved. ▮

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FEEDBACK

Backdoors lead to programmatic problems

(Re: "Capers Jones: Too many bugs are still reaching end users," September 2011, p. 16), the sad truth is that while too many developers and organizations fail to avail themselves of ready-to-hand bug remediation, we have a worse problem that goes unmentioned.

Many developers and organizations include flaws quite consciously to allow government intelligence and law enforcement (as well as other purported stakeholders, usually copyright and software-patent vigilantes) multiple layers of access to end-user systems. In a community propagandized to believe it is incapable in standard cases of producing functional products without potentially catastrophic defects, "bugs" provide ready deniability and misdirection on the uncomfortable subject of backdoors.

A few years back, prompted by repeated attacks on my own systems, I looked into exploits, backdoors, and the huge difficulties involved in defending networks against crime in a world driven around the bend by 9/11, with the thought that I would publish the results. What I found was astonishing. The level of industry and developer complicity in rendering our machines and networks defenseless was completely dispiriting.

Sadly, on a lot of machines, copyright jackals, government spooks, and gangsters from Eastern Europe all visit using the same protocols, the same exploits, and the same general code, give or take some sloppiness and repackaging. (Not to mention double translation to put investigators off the scent: It is common for everyone to use a surface layer of Japanese, Thai or Chinese, only to find after reversing and extracting that all the important hidden stuff is in English and once in a while Russian.)

Those we call the criminals can be a matter of perspective. For me, they were all criminals—the spies and contractors, the software watchdogs, and the identity thieves and botnet resellers. And the ones who terminated my last machine were the ones you might least expect.

It is important to face these issues. Project leaders need to learn how remote exploits and backdoors work, and how developers can introduce them. Organizations need to resist the urge to use them and to tolerate their introduction. The introduction of backdoors never ends well, and they never remain the domain of those who insist upon their presence.

The bad end is not often exposure to the public but rather the uptake of the tool by unintended parties. In particular, the American effort at total surveillance has been a disaster for national network security. But to know that, you need to be looking at "hidden" network traffic, which requires a bit of coding and decoding. Hence the non-news, but the consequences are everywhere, and developers need to look in the mirror.

Robert Callahan, USA

Entity Framework puts SQL Server ahead of MySQL

It's features like Entity Framework (re: "Entity Framework and the evolution of data access," August 2011, p. 64) that set SQL Server out as being so feature-rich and worthwhile compared to MySQL. Don't get me wrong, MySQL can be great, especially with all the internal configuration options available, not to mention the cost. SQL Server also has easily one of the best (if slightly buggy) administration console's out there: SQL Server Management Studio.

Josh, United Kingdom

What do you think?

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► **Zeichick on Steve Jobs**

The computing world lost one of its leading lights in October. Read "Zeichick's Take" on just what Jobs meant to the industry at tinyurl.com/3o4uos6.

► **Introducing the Developer's Cookbook**

We know developers can cook up great programs, but how are their skills in an actual kitchen? Turns out they know a thing or two about putting together some delicacies! SD Times is happy to compile these recipes from GrapeCity's ".NET Gurus Can Cook!" for you at www.sdtimes.com/cookbook for your eating pleasure!

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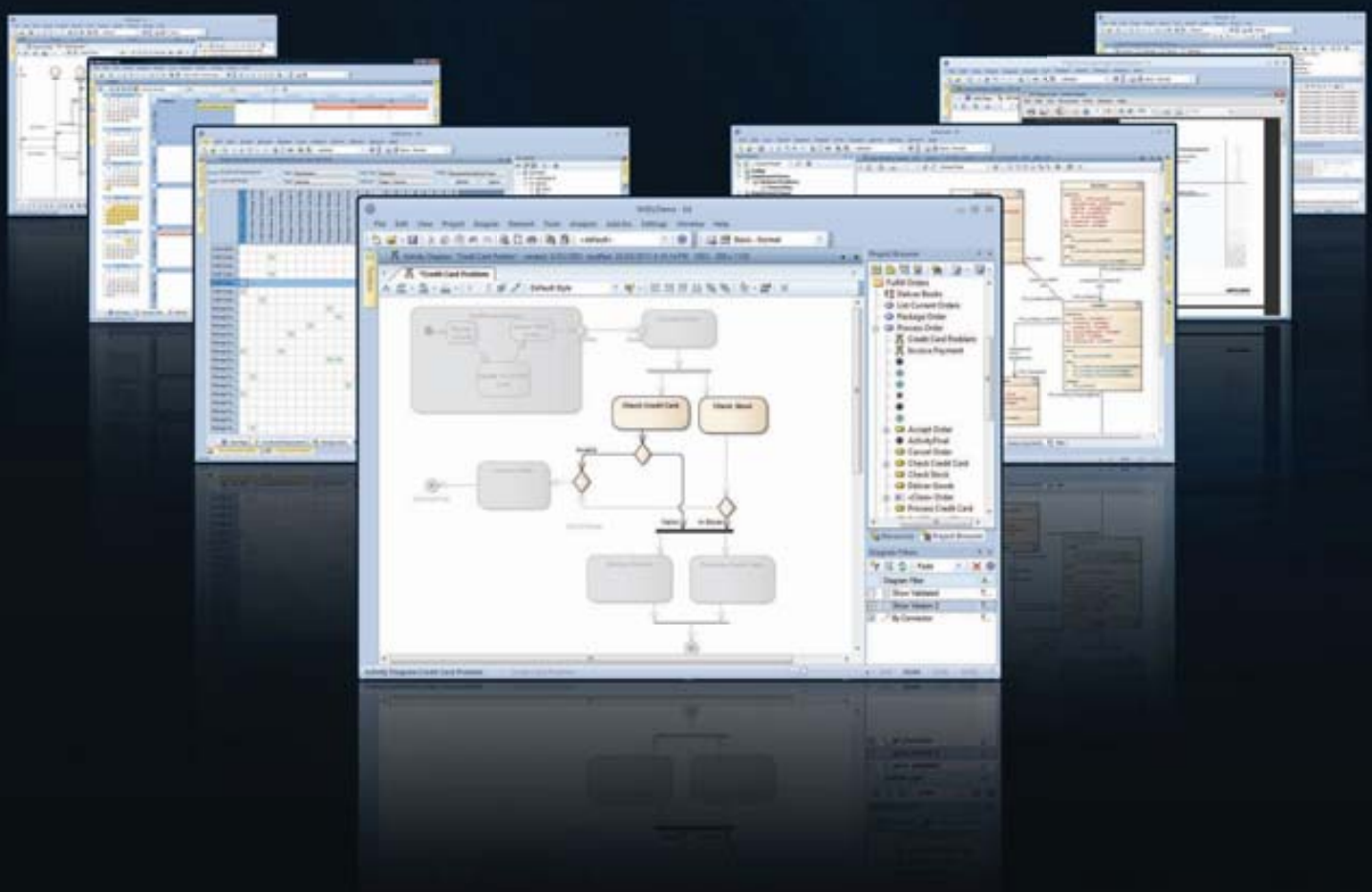

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JavaOne's focus on the

Closures, HTML5, integrations and evolved Java EE

BY ALEX HANDY

The recent release of the OpenJDK and Java SE 7 gave JavaOne attendees plenty to talk about this year. Hosted alongside Oracle's OpenWorld, JavaOne was packed with details about the recent releases and the future of Java as a platform.

Adam Messinger, vice president of development for Oracle Fusion Middleware group, laid out the future of the language in a keynote speech at October's Oracle OpenWorld, and he also announced the release of JavaFX 2.0 for Windows and its related tooling in NetBeans 7.1. JavaFX will also be pushed into the OpenJDK 8 release, and the rest of the JavaFX code will be ready for open-source release.

Messinger also discussed plans for adding closures to Java, effectively allowing the language to behave in a manner similar to a functional language. The addition of closures is happening under the name Project Lambda.

"For a lot of Java developers, Lambda is an easier way to do anonymous classes," said Messinger. "There are a lot of functional languages getting popular today: JavaScript and Scala, for example. I think there's a large body of knowledge in the Java development community about what to do with this, not to mention the fact that everyone who was classically trained had to take a Scheme class.

Photo courtesy of Oracle

Oracle's Adam Messinger said that Java will be a viable option for multicore systems.

"It's going to take a while, but there are real imperatives on the performance front that will drive it. It's one of the best ways to write code for massively parallel multicore systems. I think it will be broadly adopted."

Project Lambda is scheduled for release under OpenJDK 8, along with a newly announced project at JavaOne for HTML5 integrations. Project Avatar (also attached to OpenJDK 8) is aimed at blending HTML5 front ends with Java back ends, regardless of platform. Cameron Purdy, vice president of development at Oracle, said that it is imperative for HTML5 and Java to work well together.

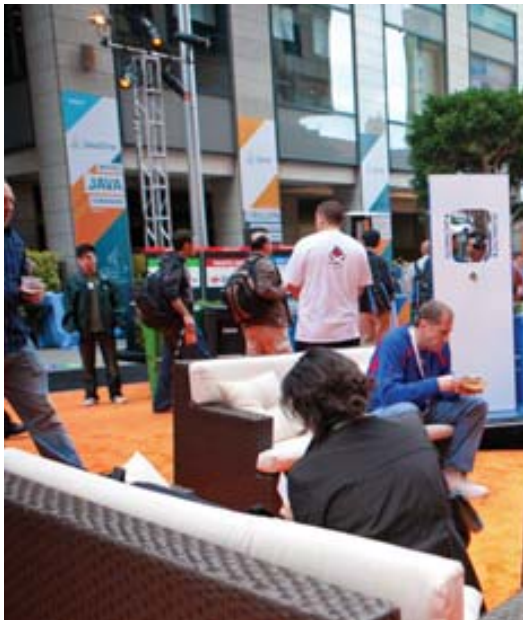
"The industry is coming to a point where there's going to be a lot of investment in HTML5 technologies," he said. "I would bet on that being aggressively and widely adopted around the industry... We're making very specific investments to both modernize and make it relevant to the next generation of applications."

Java EE evolving

The OpenJDK is not the only thing in focus for Oracle's Java developers. Purdy also detailed some of the goals for the Java EE 7 release. In a word, the theme of this release will be "cloud."

Purdy also said that there are already seven implementations of the Java EE 6 application server. "This is the fastest uptake we've had from an implementation point of a specification. Java EE 6 is alive and well," he said.

"What we're looking to do in Java EE 7 is to build on that and continue on these themes. We're looking at cloud computing. How do we create the next generation of the EE platform? That is



JavaOne attendees were treated to news that JavaFX

really geared for the style of application represented by cloud compute environments. We're looking at being able to create application containers that run on anything from EC2 to virtualization technologies, and down to real hardware."

To that end, Java EE 7 may add some provisioning features, said Purdy. Thus, Java EE 7 applications could conceivably handle their own autoscaling in cloud-hosted environments, and could provision extra servers for time with a high volume of workloads.

Further changes to EE are aimed at the way the project will be handled internally at Oracle, said Purdy. "Java EE is being developed in the open. While we're behind the curve on cloud, that's the best place to be standardizing from. You can see what works and what doesn't work," he said.

Java ME comes home

Messinger also had big news for the future of Java ME. Rather than announcing new features or platform expansions, he announced that the

future highlight show

Photo by Hartmann Studios

will be released with OpenJDK 8.

entire project will be coming back to Java SE. Instead of keeping Java ME as an entirely separate branch of Java, it will become a subset of the OpenJDK's many projects, enabled through the Java modularization project in OpenJDK 8, known as Project Jigsaw.

"Over time, Java ME and Java SE have diverged slightly. They both sprang from Java 1.4, and I think it's time to converge them again," said Messinger.

"ME has two flavors: a small flavor known as CLDC. CLDC cannot use all of the features in Java 7, so it will always be a subset. Some of the more dynamic features may not make it.

"The other ME flavor, known as CDC, is used on Blu-ray players and tablets. [For] that piece, we think we an accommodate [advanced Java features via] a subset of SE. That subset is enabled by Project Jigsaw."

The merging of two Javas is mirrored on the JCP by the merging of two executive committees. There will no longer be a separate Java ME executive committee, said Patrick Curran, chair of the JCP. But that's just one of many changes coming to the organization.

"The JCP has been extremely busy," he said. "Things were kind of quiet in the last two years of Sun's rule. We've had 17 new JSRs submitted since December. We've also undertaken a revision of the process itself. We revise the process through the process."

The plan to revise the JCP will unfold across three separate JSRs, each of which will focus on a distinct set of issues. "First, we wanted to work on stuff that was important, but relatively non-controversial," said Curran. "We're focusing on transparency and openness. In the future, we're going to mandate that all workgroups do work in the open, via public mailing lists and issue trackers. We're going to have similar requirements around the executive committee too."

This first revision comes under JSR 348, he said.

Curran detailed the plans for the next two JCP revision JSRs, as well. "Next, we will focus on merging the two executive committees into one. It seems the right thing to do," he said.

"We should have a single executive committee, which will deal with all of the three platforms. We'll do another JSR shortly to merge the two executive committees. Then we'll tackle bigger issues around IP rights."

That last JSR is bound to be controversial, and even Curran admits as much. IP rights are at the heart of a dispute between the Apache Foundation and the JCP. Earlier this year, Apache resigned from the JCP over the terms-of-use restrictions on the Test Compatibility Kit for Java implementations. The TCK, as it is known, restricts the type of devices to which an implementation of Java tested with the TCK can be deployed upon.

Curran said that this and other contentious legal issues will be the focus of the third JCP revision JSR. However, he added that this JSR could take a while to be completed, as lawyers from both sides will want to validate any changes and be included in the process.

ANALYTICS A FOCUS AT ORACLE OPENWORLD
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Divisions in mobile

Beyond the future, Messinger also demonstrated some here-and-now technologies in his keynote. Most notable were Java applications running on an iPod Touch. He explained that developers can now embed the Java virtual machine within a mobile application and wrap it in Objective-C, so that the end product can be sold in the iPhone App Store.

"The way this works is by linking the JVM into the program. So rather than Java being installed on the phone, instead it's being linked to the program," said Messinger. "It looks like a statically linked lib.c. That's the path we plan to take for supporting the Mac OS App Store. You can't ship a pure Java application to the Mac App Store, but you can package it with a JVM."

At JavaOne, Messinger also announced the release of Java SE 7 (as well as JavaFX) for Mac OS X. It is currently in a beta release, said Nandini Ramani, vice president of development for Oracle Fusion Middleware group. JavaFX 2.0 itself is a major upgrade from the previously titled JavaFX Script 1.0 release, she said.

As for new features, she said, "We have an HTML editor. We converted all of the JavaFX Script APIs to be totally Java. We've retained some of what people found interesting about JavaFX Script. We have a hardware-accelerated graphics stack. We have a new layer like AWT, called Glass. We have support for streaming media, graphics, and all the things that make up a good RIA platform.

JavaFX 3.0 will be open source and part of the OpenJDK 8 release, said Ramani. In the meantime, a version for Linux will be pushed along to completion.

OpenJDK 8 will also include some better replacements for those long-remaining bits of IP-encumbered code from previous versions of Java. Thus, said Messinger, the browser plug-in for Java, which has remained closed source, will finally be making its way into the open-source community. ■

Subversion 1.7 release brings performance improvements

BY DAVID RUBINSTEIN

The Apache Foundation in October released version 1.7 of the Subversion file-based SCM system, with a rewrite of the metadata management system designed to boost performance, and an HTTP protocol (HTTPv2) that reduces roundtrips from client to server.

"If people are completely happy with Subversion today and are looking for new features, there aren't a lot of bullet points" with this release, according to Mike Pilato, a software engineer with CollabNet, which contributes to the Apache project.

But the big news for Subversion is not coming out of Apache. Developers at WANdisco, which sells a commercial version of the SCM system, and SaaS provider Assembla are working on a new merge capability for Subversion.

The merge capability represents "a major change in how Subversion works," said David Richards, president and founder of WANdisco. With the Git distributed version control system, workflows can be set up that enable team members to work on different things and merge them, he explained. The downside, he said, is that "with Git, you're always working with the entire repository," because a distributed VCS requires data to be replicated across every client.

Richards said the company is working on a client-side fork-and-merge application that "relieves the stick that the Git faction is beating Subversion with." But he said that the effort is not merely to take an argument away from Git supporters; it will be an option that is compatible with Subversion 1.7. Richards expected the merge functionality to be released into beta in about three months.

According to Sesha Pratap, cofounder of Assembla, the merge capabilities will appear in both Assembla's Subversion service offering and WANdisco's product. The companies will make them available to Apache, which will then have to vote on whether or not to accept them into the open-source project.

Gartner analyst Jim Duggan, who follows the SCM space, said the new merge will bring Subversion closer to other commercial file-based systems such as AccuRev and Perforce. "I don't think this release addresses the fundamental disconnect between distributed VC systems and file-based systems," he said.

As for the 1.7 release, the Working Copy-Next Generation codename for the metadata management system brings centralized metadata storage for improved performance.

As for HTTPv2, Pilato said the project team has moved away from WebDAV and its DeltaV versioning. "We still support [WebDAV and DeltaV] on the client-side, but we're taking advantage of the extensible part of the protocol to reduce network turnarounds across HTTP," he said. ▮

IBM unveils platform-as-a-service

BY DAVID RUBINSTEIN

IBM announced in October its SmartCloud Application Services, a platform-as-a-service that is part of a major new cloud initiative from the company.

The application framework includes capabilities for life-cycle management, middleware-as-a-service, and integration, as well as deployment services and the ability to manage packaged applications such as SAP.

IBM is leveraging its Rational, Tivoli and WebSphere assets to provide those capabilities as a service, relieving programmers of the underlying complexity of configuring middleware, according to Lauren States, vice president of cloud computing and growth initiatives at IBM. "We've repurposed parts of the portfolio for use as a service," she said.

States said the company studied its enterprise customers to see how they were routinely deploying their applications, leading IBM to create predefined deployment environments as services. "Our team has been understanding application deployment patterns and codifying them so they can be used in a repeated basis," she said. "We've looked at how things such as Web apps are commonly deployed."

Cloud computing cuts costs for organizations in the areas of installing, maintaining, and managing data centers and physical machines. States discussed the evolution of the cloud to this point, from experimentation to economics, and ultimately to innovation. Organizations, she said, first had to determine how to adopt the cloud based on their business processes and from a cultural standpoint.

"From economics, they gain leverage for innovation, through the ability to implement new business models, or faster time to market," she explained.

SmartCloud Application Services will have what the company called enterprise-grade security. "Security is a combination of technology, policy and practices," States said, adding that IBM will leverage technology from its recent security acquisitions, as well as work with customers to establish best-practice security policies to ensure applications and data in the cloud are not compromised.

The services can either be hosted on IBM's cloud infrastructure or on a private cloud, and they are available under a variety of licensing options, States said.

IBM also announced the launch of SmartCloud Foundation, a portfolio of cloud software for deploying and managing clouds behind a corporate firewall; and SmartCloud Ecosystem, a set of services for partners and ISVs to adopt cloud models for transactions.

IBM expected its cloud offerings to drive US$7 billion in hardware, software and services revenue by 2015. ▮

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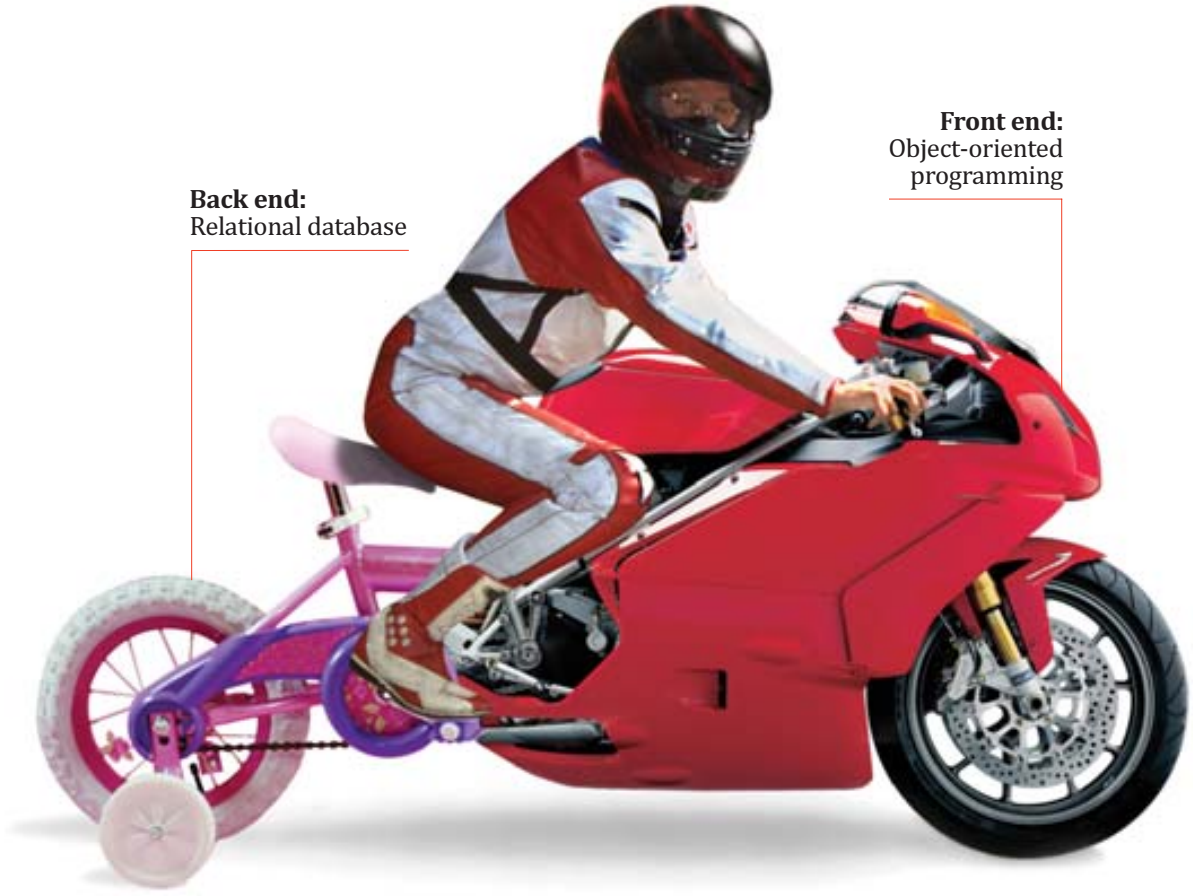

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The developer case for embracing analytics

A pair of conference keynotes extol the need to help the business side

BY VICTORIA REITANO

Analytics is the accepted way to determine what business decisions are right for your organization, but now it is up to business teams and analytics teams to determine what types of solutions will best help them make these decisions, according to the second keynote at the Predictive Analytics conference, given by Thomas Davenport, a professor at Babson College and research director at the International Institute for Analytics.

The keynote was offered as a joint session to those attending the three concurrent conferences under the Data Driven Business Week umbrella, which also included eMetrics and Text Analytics World. Davenport said he enjoyed speaking to all three groups because he, as an analytics professional, looks at their adoption as a larger effort, comprised of professionals from all three conferences.

Davenport told conference attendees to embrace analytics, which he assumed most already had, given that they were attending the conference devoted to analytics. So instead of continuing to preach a respect for analytics, he changed the focus to taking these extraordinary results and making them everyday occurrences.

Davenport's "Everyday Analytics" presentation discussed several successes in the industry and how to make them more commonplace. Predictable results in analytics require that team members create a set of solutions they are good at delivering reliable results with, he said.

It is by creating this list of solutions that teams can then begin to industrialize their process. Industrialized analytics are embedded, scalable and deliver consistent results.

"We can't do it all. We have to help decision makers produce better decisions," Davenport said, adding that analytics for the masses really hasn't taken off and that it is up to analytics professionals to make gathering analytics easier, depending on their own industry and needs.

Know analytics, know success

The Web analytics team is often thought of as separate from the Web development team, but Joe Megibow, vice president and general manager of Expedia's USA operations and a former software developer, said software drives business today, so developers also need to understand analytics in order for a company to be successful overall.

Babson's Thomas Davenport says analytics help businesses make better decisions.

Megibow has learned several lessons about working together with other "weirdos" through his career path: first with a company now known as Tealeaf, through his tenure at Hotels.com, and now at Expedia.com. His rules apply to marketing professionals and developers because in today's Web-centric world, both need to work together in order to sell products and ideas.

The tools, Megibow said, are not what ultimately make companies successful, it's how companies understand how consumers use the tools that increase their success. This can help developers in the requirements phase, because, as Megibow said, "Know your customer; your customer is not you."

Analytics are understood by the analytics industry at large, but since they are vitally important to making informed business decisions, Davenport said analysts (or "math people") need to make it very easy for businesspeople to understand.

It is not a two-way street, he said. The math people need to know a lot about the business and to understand what they need to deliver, while the businesspeople only need to understand their customized solution.

Solutions should be customized as mobile apps are, Davenport said, with a specific app delivering specific portions of the overall analytics picture. In order to do this, software teams really need to understand what their business teams need and then understand how the businesspeople will be using these solutions.

He said that analysts really need to make clients on the business team aware of what they do well, and how those results can be delivered to help business teams understand how the results can help their overall processes and goals.

Analytics teams should be passionate about one set of approaches that they do well in order to consistently deliver reliable reports, he said. This will also help business teams understand the goals of analytics.

As far as tools go, Davenport said the solutions should be customized for business users, and multiple tools should be offered to analysts. This goes against the old ways of thinking about business intelligence tools because, as he said, analysts originally thought business team members should have the option to view all solutions and the responsibility to parse through the data.

Davenport said that because of the amount of data today, this is no longer the best option. ▮

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Oracle gives the thumbs

Company's Berkeley DB-based offering joins others in

BY ALEX HANDY

October was a busy month for the emerging NoSQL market. Oracle kicked it off with the announcement at its annual conference of its own NoSQL database, a scalable cluster-based version of the Berkeley DB key/value store. Then, the Apache Foundation and DataStax announced the release of Cassandra 1.0, which adds multi-threaded compaction and performance improvements to the popular NoSQL database.

Despite the heady pace of innovation and the release of new open-source projects in the NoSQL space, there are still new projects emerging almost every day. Even as Oracle is entering a market that until now it has maintained was filled with snake oil, smaller start-ups and groups of developers are still putting together new and novel solutions for quickly managing and storing large amounts of data.

And that's probably because some NoSQL companies are already seeing big gains inside enterprises and government organizations. MarkLogic, the company behind the unstructured data store of the same name, has been growing quickly with the rise of the NoSQL movement, said David Gorbet, vice president of product strategy at MarkLogic.

Oracle's Marie-Anne Neimat said the Oracle NoSQL was driven by customer demand.

Gorbet said MarkLogic was founded in 2003, and that its database product increasingly fills a hole left by traditional relational databases. "The principle of the company is that there is some data that's difficult to fit into a relational data store that needs a different paradigm for managing it, but it still needs the benefits of a database behind that," he said.

"Our first customers were in intelligence and publishing, and more recently we've been making inroads to financial services and healthcare firms that have big data problems. We're a private company with over 250 employees. We've had great growth. We grew by 45% in 2010, and we're on track to grow faster than that in 2011."

That growth is fueled by the increasing need within enterprises for solutions to their big data problems. While solutions like Hadoop are handling the after-effects of the big-data explosion and allowing enterprises to get their arms around the data slowly, NoSQL solutions deal with the opposite end of the problem: storing and making that unstructured data available for immediate use in scalable Web and mobile applications.

And while 2010 was the year that the NoSQL movement kicked off, MongoDB CEO Dwight Merriman said that it was 2011 in which enterprises began to actually use NoSQL databases.

"I think they wanted a certain level of maturity, and only this year has it gotten to that point where they're comfortable," said Merriman. "I think what's happened in 2010...was it became a popular product. That was the biggest change from our point of view in 2010. In 2011, enterprises are using the stuff now. Starting in January of this year, we've seen that really ramp up. We see Fortune 500 companies using MongoDB, or other projects in the space."

NoSQLs are now mature enough for Oracle to embrace, said MongoDB's Dwight Merriman.

Oracle enters

So great is the demand for these solutions that even Oracle was hearing about it from its customers. Marie-Anne Neimat, vice president of database development at Oracle, said that customers had been asking about NoSQL for some time.

"Our customers have been asking us, 'When is Oracle going to have an offering around NoSQL?' We felt like we have a lot of expertise in data management, and we felt we could offer a more complete solution for our customers by having a NoSQL that is going to, over time, integrate with all of our products and have a migration path," she said.

Indeed, Oracle once criticized NoSQLs as incomplete and immature solutions to problems that the company felt didn't exist. Gorbet said that Oracle's entry into the market is more of a validation of the need for these solutions than it is a threat to existing players.

"It's an interesting position given

up to NoSQL

maturing Big Data market

their previous position, but it does validate that relationals are not the only way to do things," he said. "For Oracle to be getting into the NoSQL business is just a recognition of reality, really."

But Oracle has touched on the real secret of the NoSQL revolution: There's a solution for every customer's problem. From key/value stores to object stores to graph databases, there are new projects cropping up every month to fill every type of data-store hole that has opened in the past four years.

Ben Werther, vice president of products at Apache Cassandra-focused DataStax, said that many new additions to Cassandra are coming from the demands of existing customers, and this is why so many NoSQL companies are now focusing on building out GUI-based management tools.

"I think, obviously, we're driven by what our customers are asking for," he said. "[Administration has] been identified as a gap in many of these systems. We're fundamentally about focusing on customer progress."

And in the end, it's the customers' needs that really shaped the NoSQL revolution. Said Gorbet: "The bottom line is speed: speed with which you can develop applications on the platform, and the speed with which the platform responds to queries."

Sleepycat awakens

It's unsurprising that Oracle decided to finally enter the NoSQL market. And it's also not surprising to see that Oracle's first entry into the market is a reworking of a database the company purchased in 2006.

Berkeley DB (also known as Sleepycat, after the company Oracle purchased to gain hold of the project) was an in-memory key/value store useful for embedding into single-instance applications. With the move to NoSQL, Oracle spread Berkeley DB across a cluster, and added capabilities that make it easier to manage and maintain the database.

"Berkeley DB is a single-node database, not a distributed node database," said Oracle's Neimat "This is now a distributed key/value store. It can scale out over many, many nodes.

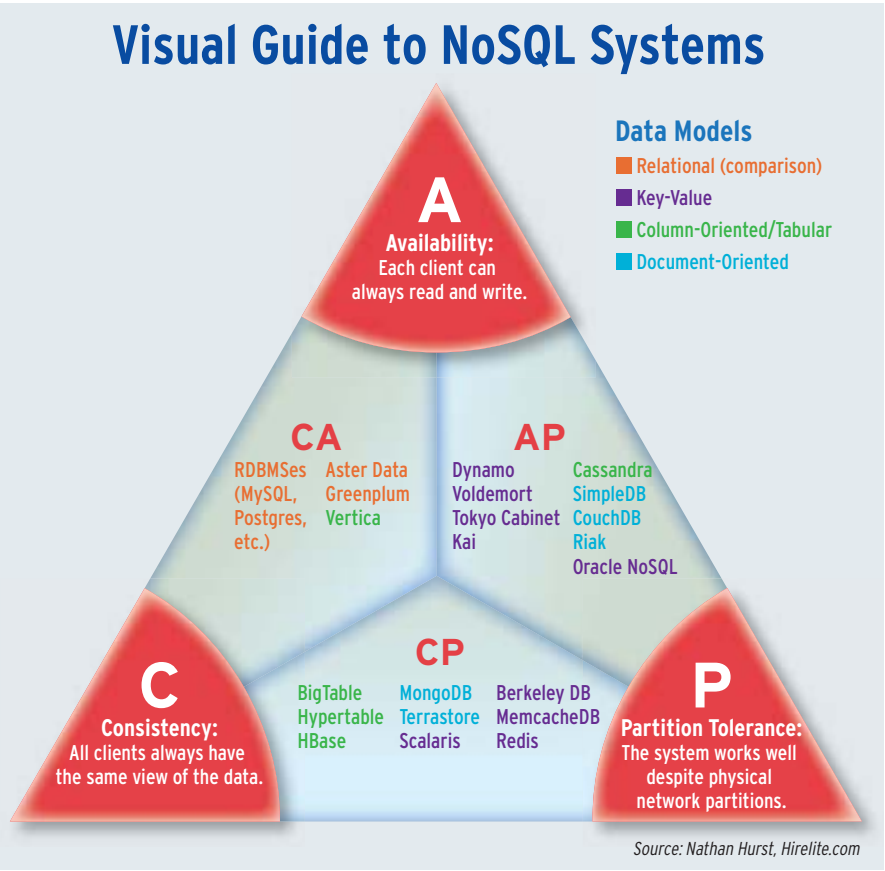
"We've measured performance to over 300 nodes. It still has the built-in high availability of Berkeley DB, and in addition it has a concept of a sub-key. You cannot only identify a record by its binary key, but also by sub-keys. We will cluster all the records with all the same primary key on the same node, so records that share the same primary key but not the same sub-keys will be colocated on the same node, and we provide an API for doing atomic operations on many records that have the same primary key."

Neimat said that the Oracle NoSQL Database, as it is now called, includes many of the features now being implemented by other NoSQL projects. "It's easy to install, to set up, and has a nice management console," she said. "A lot of the components used to manage consistency and eventual consistency offerings out there leave quite a bit of responsibility to the users. We feel we provide an easier means of providing consistency. We think we have a clean model with the sub-keys, as it provides an equivalent to additional columns, but offers a clean way of doing that."

But no matter what companies offer in the NoSQL market, the biggest constant is that there will always be more data. And the volume of that data isn't the only problem, said MarkLogic's Gorbet.

"The story about big data is about more than just volume; it's really about volume and complexity," he said. "I think there is going to be a sea change in terms of how people want to process that.

"Spending time and building data models for each new step in a business process was difficult before big data, but it's almost impossible now. The question now is how do we create a repository that's flexible and bring our processes to the data rather than running lots of business process?" ▮



Analytics a focus at Oracle OpenWorld

Company also shows new SPARC-based supercluster

BY ALEX HANDY

Oracle's annual OpenWorld conference played host to the introduction of new hardware and software systems for big data analytics. The Exalytics Business Intelligence Machine includes multiple databases to allow analytics to be run against both structured and unstructured data in memory. Oracle also announced the availability of a new SPARC-based SuperCluster for Solaris users.

Photo by Hartmann Studios

A large crowd at OracleWorld heard Oracle's Larry Ellison announce the company's first foray into the big data analytics market.

The Exalytics Business Intelligence Machine is built to offer instantaneous query results on relational, multidimensional and unstructured data. Oracle CEO Larry Ellison said that it includes the TimesTen relational database for relational data, and the Essbase database for multidimensional data, both of which came to Oracle through acquisition.

Ellison also highlighted the heuristic adaptive in-memory cache. "As different people ask different questions, we migrate different data sets into memory," he said. "If people are asking the same questions over and over again, we keep that data in memory." He added that Exalytics can perform a logical scan on 5TB of compressed data in five seconds.

Exalytics could be seen as both a play for the burgeoning big data market, which is currently dominated by Apache Hadoop, and also as a nod to the NoSQL movement through its inclusion of relational, multidimensional and unstructured databases in the system.

While Oracle's two new products were the big news for software developers, Ellison spent a great deal of time discussing the advantages of using systems in which hardware and software come from the same vendor. "I remember when we first bought Sun, a lot of people said, 'They're going to get out of the hardware business.' I guess we didn't get the memo," he said.

"A few years ago, we introduced the Exadata Database Machine, followed by the Exalogic Middleware Machine. If you design the hardware and software in concert, you can do a better job than if one company comes up with the operating system, and another comes up with the virtual machine and another creates the database."

Thus, Ellison said, Oracle's dedicated systems have evolved to be parallel in multiple ways. From parallel connections between the storage and database systems to parallel InfiniBand connections to the middleware machines, he claimed that parallelism on a grander scale yields simpler and more powerful systems to maintain.

"Apple is doing a good job designing software and hardware and services that work together," said Ellison. "The idea of engineering the hardware and the software—all of it—so it works together should give us the opportunity to deliver better performance and better ease of use across the board if we engineer all the separate pieces to work together."

Ellison then introduced the new SPARC SuperCluster. "We decided to extend our parallel everything architecture to the SPARC processor and the Solaris operating system," he said. "This machine was designed to do two things: One is deliver extreme performance at low cost; and second, to provide an easy upgrade for a SPARC Solaris customer."

The SuperCluster will run Solaris 10 or 11, and it is based on the new SPARC T4 processor, which Ellison claimed offered a 5x performance improvement over the SPARC T3. "For the first time ever, the SPARC microprocessor runs the Java language faster than the IBM PowerPC architecture," he said of IBM's competing machines.

Change of heart on NoSQL

The introduction of Exalytics marked a change in tone from Oracle on the NoSQL movement. Prior to this release, Oracle had been attempting to squelch enthusiasm for NoSQL as it was seen to be adversarial to Oracle's mainline business database products.

Oracle is known for disparaging technology one minute, then offering it the next. Such was the case when Ellison called cloud computing a sham back in 2009. Shortly thereafter, and even as Ellison was saying this, Oracle began offering cloud services and products.

Similarly, Oracle has, until now, been cool on the NoSQL movement. Bob Wiederhold, CEO of Couchbase, said, "To date, Oracle has told their customers that NoSQL is useless or, at best, should be used only for a very limited set of use cases. If Oracle is now ready to join the party on the scalability, performance, and data-model-flexibility advantages of NoSQL, we welcome them." ▮

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Navigating beyond reach of GPS

Professor wants to provide mapping in places the technology cannot go

BY VICTORIA REITANO

Anastasios Mourikis is working to overcome the limitations of GPS by developing algorithms that will use cameras, gyroscopes and accelerometers to provide navigation in areas that the system's satellites cannot detect.

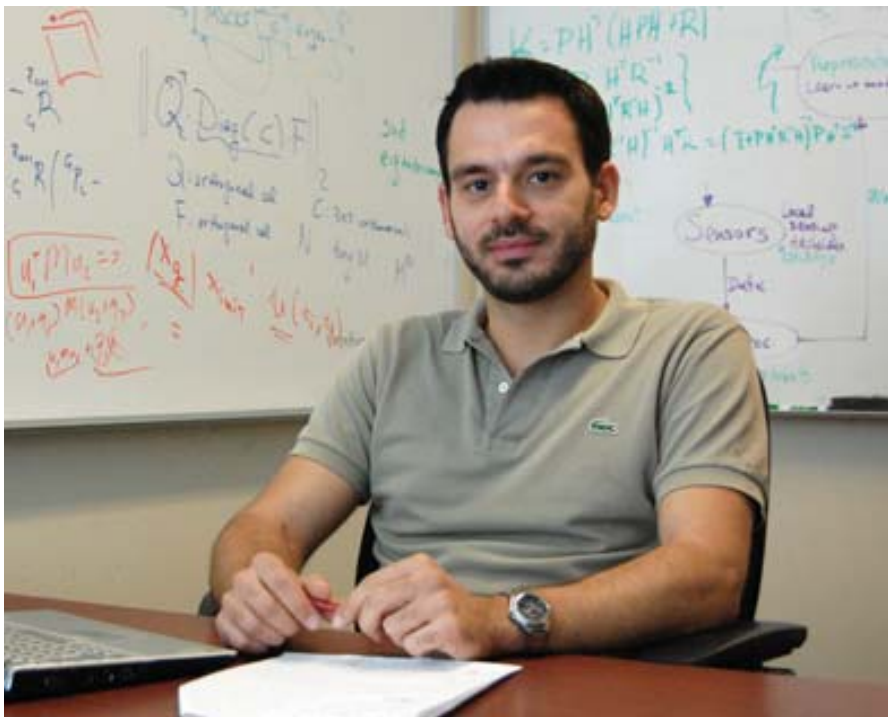
Mourikis, an assistant professor of electrical engineering at the Bourns College of Engineering at UC Riverside, has received a three-year, US$447,000 Federal National Science Foundation grant to extend his work on navigation in robotics to smaller systems.

GPS, according to Mourikis, does not work indoors, underwater or in space. His open-source software algorithms, which will eventually be made available for all users on the Web to allow for crowdsourced testing, will help provide navigation that can be customized based on what type of application a developer wants to create to navigate in those areas.

Mourikis envisioned it being particularly useful for people in life-or-death emergencies. "Rescuers could use the technology in cameras connected to their helmets in order to see into a mine or building after a catastrophe," he said.

Robots have been using this sort of technology for years, but those are massive systems. Mourikis wants to create a building block that will allow the technology to be used on a small-scale device, like a cell phone, and not drain the battery more than an average application would.

His work is focused on cell phones because they have inexpensive cameras, inexpensive computing power and limited battery life. He hopes in three to four years to have a working algorithm and application that can be customized.



Anastasios Mourikis wants to put his technology in smaller consumer devices, like cell phones.

In addition to assisting in rescue missions, this technology could help the visually impaired navigate indoors. There are applications that have step-by-step audio directions for these individuals, but they are GPS-based, thus suffering from the same limitations other GPS devices have.

For consumers, Mourikis saw this as being an application that can assist large department stores in their desire to create applications for in-store maps to help people navigate them. This is something he said will be worked on further down the line, based on market trends and demand.

In addition to crowdsourcing, Mourikis plans to collaborate with the Bourns College of Engineering's Mathematics, Engineering and Science Achievement program to work with K-12 students.

"This will not only be useful for mobile phones. The algorithms will adapt to whatever hardware [developers have access to]," said Mourikis. "Each system has certain characteristics, [and this research will help] leverage them in the best way possible." ▮

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Data and bandwidth limitations pose an issue for developers

BY VICTORIA REITANO

Many end users now visit their favorite websites via mobile browsers and mobile applications, which can sometimes present a challenge to developers, particularly given new data constraints placed on end users by their mobile providers. But there are some best practices that can help developers lower the amount of data their applications use.

Antonio Vitti said that Mobile Spinach has used Sencha Touch in the past to create mobile applications with reduced data needs.

Kurt Gerstner, VP of application services at Unisys (a software company that manages "mission-critical environments" for enterprise organizations), recommended preloading any graphics, images or icons directly to the application so that when an end user downloads it, the application package is complete.

If all application graphics are part of the initial download, Gerstner explained, the application would not have to make additional calls to retrieve the images from the Web, thereby reducing the amount of bandwidth it uses.

He also said developers need to be aware of the amount of device memory used by individual applications.

Gerstner said mobile phones, despite their new capabilities, improved battery life and slim cases, are still only carrying about 512MB in memory, which is something that can be filled very quickly by applications or mobile sites that cache a lot of data.

Streaming content in applications, he said, is often what pushes the data usage for end users over the edge because of the heavy bandwidth and memory needed to generate the images.

Gerstner suggested that developers prompt end users to download the content and then view it on the go, similar to music services such as the iTunes store. He also said that using preview versions or lower image quality will also reduce the amount of data a streaming application uses. This doesn't reduce the user experience, however, because the devices are much smaller than desktops, so end-users won't notice a huge change in the image quality.

Part of the requirements management process should include a time to discuss who will be using these in-house enterprise applications, like a system that a company uses for human resource management, and on what devices, according to Gerstner. For example, if an insurance agent is using an internally developed application to send and claim images and information in the field, his data plan should be larger than the on-site representative who might be viewing the application on a mobile device once or twice a year, or the HR representative who will mostly be using in-house applications via a desktop.

Gerstner's tips apply to a native application, but Antonio Vitti, cofounder and CEO of Mobile Spinach (a local deals site that doubles as a mobile Web application and platform), believed that creating a mobile Web application is the best way to reduce the amount of data—and development work—an application requires.

"A mobile Web application inside the browser looks and feels exactly like a native app," he said. "It gives the end user a seamless experience. When an end user uses Mobile Spinach, they don't leave the host application, and we provide a co-branded experience so that it integrates into the Web browser without a lot of development work required. Developers also have access to an API and SDK, should they wish to customize further."

For developers who wish to create a mobile application, in order to reduce the amount of data their application consumes, Vitti said using a development tool like jQueryMobile or SenchaTouch to create an HTML5-compliant mobile Web application is the best idea.

"We wanted to minimize the load time for our application, and so we used jQueryMobile to pick and choose what portions of the databases we wanted to download," Vitti said.

He added that Mobile Spinach locally caches images on the mobile device so as to reduce load times when the application is loaded in the future, and it also compresses the images to increase the uptime of the initial download.

Another feature of creating a mobile Web application is that one can have multiple iterations without going through the Apple App Store approval process, and an app can be supported on multiple devices and operating systems, Vitti said. He added that creating one codebase makes the application more manageable and reduces maintenance for the development team. ▮

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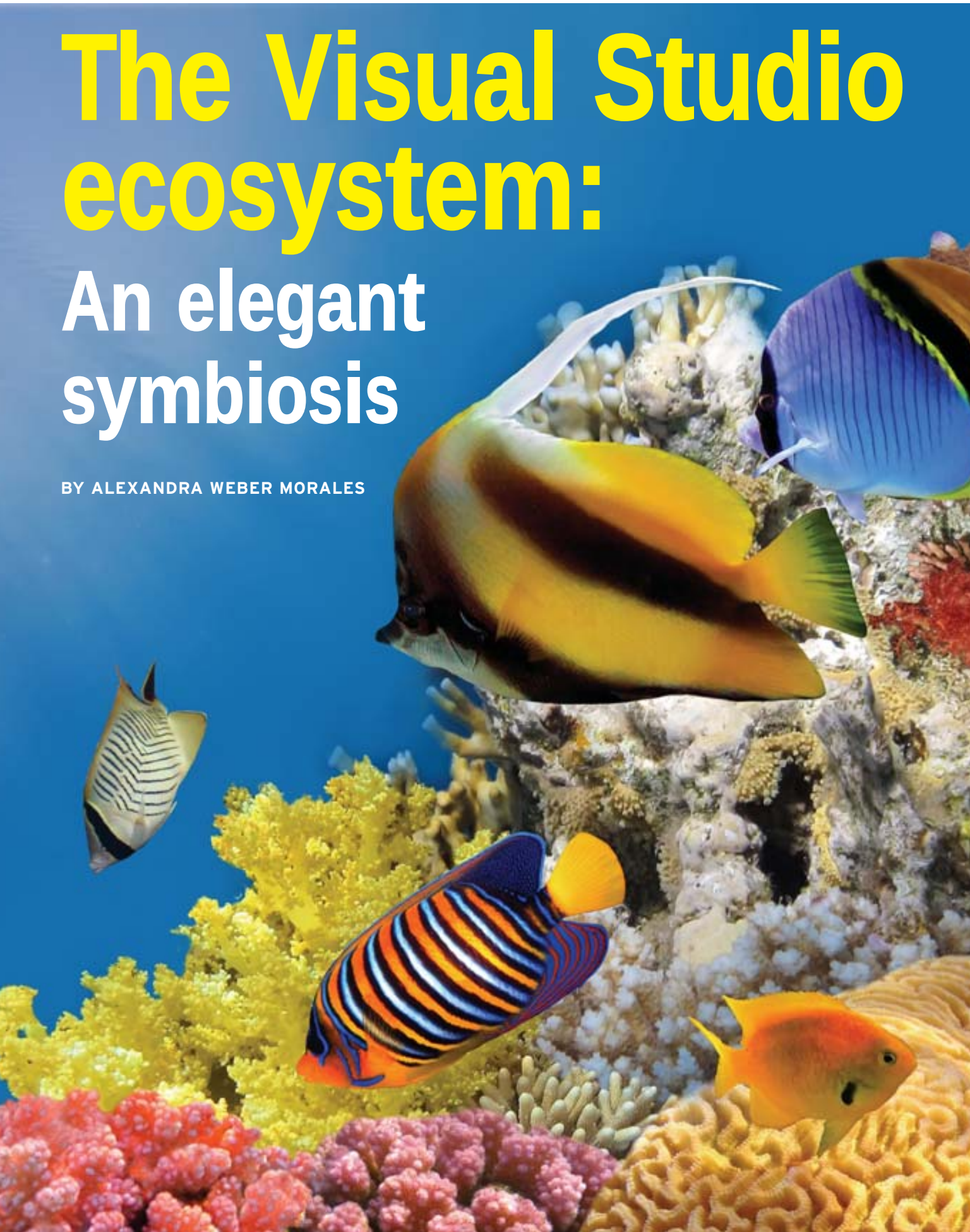
The Visual Studio ecosystem:

An elegant symbiosis

BY ALEXANDRA WEBER MORALES



Microsoft's Visual Studio ecosystem numbers 180 partners and counting. On the heels of the Microsoft BUILD conference in September, here's what you should know about the current tool set, from the forthcoming Visual Studio 11 (now in developer preview) to LightSwitch, Team Foundation Server and Project Server. Plus, there was a look at how third-party plug-ins play nice with Redmond. In the aftermath of BUILD, there's been a blizzard of words around Redmond's evolutionary changes to its operating system, development environment and life-cycle tools.

On the negative side: criticism of the Metro-style design, confusion around the positioning of LightSwitch and the status of Silverlight, angst toward the changes to the Windows 8 start menu, and mea culpas over key aspects of C++11 that won't soon be implemented in Visual Studio.

On the positive: a renewed interest in native code, excitement over its touch-screen-centric style, enthusiasm for massive parallelization with C++ Accelerated Massive Parallelism (C++ AMP), and the touching embrace of Project Server and Team Foundation Server to comprise a full ALM offering, to name just a few.

With a customer base as massive as Microsoft's, positive and negative chatter is inevitable. Beyond just opinions, there are statistics: The company's heavily instrumented preview versions of Windows 8, Visual Studio 11, Team Foundation Server and more offer a closely guarded "census," according to Microsoft's Steven Sinofsky, into actual usage patterns via the opt-in Customer Experience Improvement Program. Sinofsky is just one member of an army of bloggers engaging the often-outraged developers who use Microsoft's tools, taking feedback, debating decisions, and explaining the scientific rationale behind any given change.

In the shadow of Apple founder Steve Jobs' death, legions of Microsoft developers find themselves wondering if Redmond's choices will be as world-changing in the next decade as Apple's were in the last. In addition, a massive ecosystem of ISVs is analyzing the developer preview to pinpoint plug-in offerings of their own. The symbiosis is in full flower; this is your field guide.

Visual Studio 2011 developer preview

At the heart of Microsoft's developer tools strategy is its market-leading integrated development environment, Visual Studio.

"This is a big release," said Tony Goodhew, product manager for Visual Studio 2011. "It's the equivalent-size release as Visual Studio 2008 and 2010. There's a similar feature surface area improvement."

So what's the best way to think about the panoply of refinements and introductions? "The Microsoft brand promise is productivity, integration and platform support," said Goodhew. "As a tool with 15 years of history, Visual Studio has really focused on this promise. Listening to what developers want, we focused on making the developer experience better and more productive. We also focused on the ability to create compelling user experiences, especially in small and mobile devices."

Finally, there's the "team experience: Let's make the experience of collaborating together to deliver quality software better."

"Visual Studio and Team Foundation Server developer previews are evolutionary," said Todd Anglin, chief evangelist for Microsoft partner Telerik. "Windows 8 and the Metro runtime are more revolutionary."

But do the evolutionary changes fall short of those required by natural selection? If the threats from the passionate C++ constituency to choose GCC over the polyglot IDE are any indication, they do.

Not native enough

The developer preview of Visual C++ was able to accommodate the recently ratified changes to the standard template library in the new C++11 standard, as well as adding three core areas: stateless lambdas, SCARY iterators, and scoped enumerations. But more newsworthy were the dozens of omissions,

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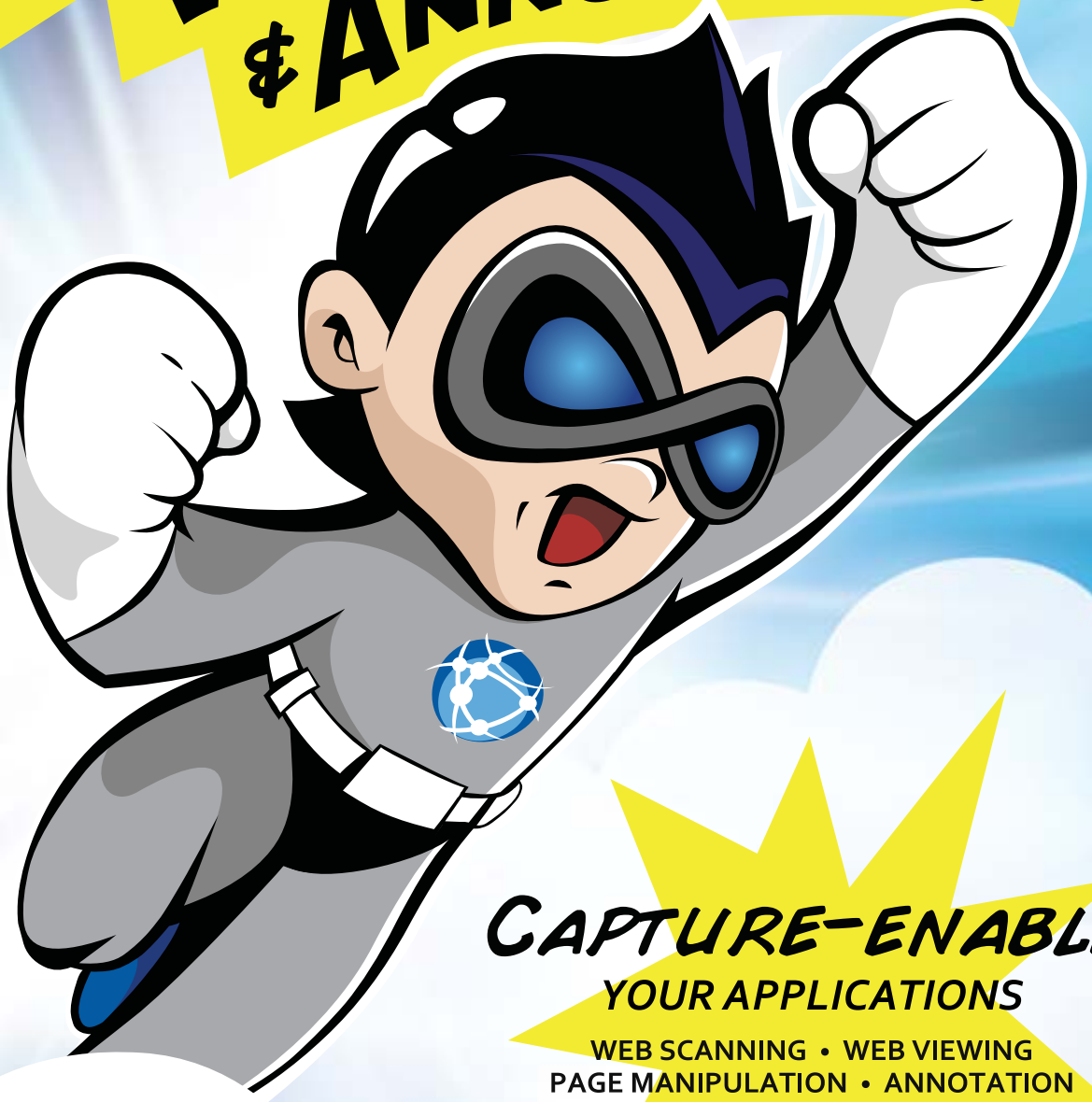

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including variadic templates; range-based for loops; delegating constructors, non-static data members initializers; and many more that won't be implemented in the next release—and possibly next two releases—of Visual Studio. That said, some of the missing pieces may themselves be buggy, and only a few competing compilers exceed Microsoft's conformance, with the exception of GCC.

"There was a group of people who were unhappy with how much C++11 conformance we were able to achieve," said Goodhew. "But another group said, 'Look, this is the first time we've seen this much native code at a Microsoft conference.' We were disappointed in the level of conformance with the C++ standard; we try to be very transparent about this.

"I've been doing tools marketing since 1991, and when you commit to something and then pull it from the product, that's often worse than not committing at all. We are very committed to the C++ language and native development. We're working out how we can get this stuff to market faster for a C++ developer and looking at how we can not make customers wait two more years to Visual Studio 2012."

Goodhew's promises did little to placate those who had been fired up by Herb Sutter, a Microsoft architect for native programming languages. He recently wrote that, "after a decade-long affair with managed languages where it became unfashionable to be interested in C++, C++'s power and efficiency are now getting very fashionable again."

C++ did get extended airplay, however, for its new role in general-purpose GPUs, Sutter explained at BUILD. C++ AMP, which accelerates program execution by running data parallel across portions on a computer's graphics processor. The programming model includes multidimensional arrays, indexing, memory transfer, tiling and a mathematical function library.

There are also new features for concurrency, which was the focus of Sutter's groundbreaking 2005 paper, "The Free Lunch Is Over: A Fundamental Turn Toward Concurrency in Software." These include two new windows for debugging parallel applications on the GPU or multiple CPU cores; the Concurrency Visualizer; Task Parallel Library Dataflow; and new C++ concurrency warnings that detect race conditions and common problems around locking and synchronization.

Close to the source

Microsoft's code-centric approach to Visual Studio continues with the addition of a number of productivity plays around IntelliSense, refactoring, search and more. The promotion of HTML5 and JavaScript to first-class languages in the IDE opens a compelling new world of choice for developers aiming for mobile and/or the cloud: HTML5 plus JavaScript, or C# plus XAML. The Windows runtime framework supports all the languages equally.

JavaScript IntelliSense, while far from complete, is "enhanced," in Microsoft parlance, elevating the dynamic language while still leaving space for plug-in improvements. Adding IntelliSense to JavaScript is a thorny problem, said Goodhew, but given the success Microsoft partner Whole Tomato has had with its C++ product, Visual Assist, it's entirely possible a similar product will fill in the blanks for JavaScript. As it is, DevExpress' CodeRush and Refactor Pro improve JavaScript legibility, speed up coding, and suggest refactorings.

Speaking of refactoring, the code clone analysis for C# and Visual Basic proposed in the developer preview makes it possible to find near matches in duplicate code, places where names of variables and parameters may have been changed, but the method or fragment is essentially the same. This joins other search improvements, such as Quick command search to locate menu commands, open Options dialog box pages, or switch between open documents or Tool window search.

"The demo I saw was detection only, essentially a spotlight showing you the problem," said Mark Miller, senior scientist at DevExpress. "We have been working in secret on a tool feature for the last almost two years. It's called duplicate code detection and consolidation, abbreviated DCDC. It detects duplication, but also goes a step beyond and consolidates it, which is a very difficult problem... If the Visual Studio feature comes out and it's only detection but not consolidation, that will be great for us."

LightSwitch, Silverlight and XAML

Much of Windows 8's hip new look is scaffolded on HTML5, which has made Silverlight developers and XAML adherents nervous. Would Silverlight soon be abandoned? Post Build conference, "Those fears are overblown," said Anglin, whose Telerik RadControls for Silverlight includes more than 60 production-ready XAML controls for line-of-business applications. Another point of confusion has been over the positioning of LightSwitch, released in June.

According to Goodhew, "LightSwitch was a product we built to address a need that a segment of the market has for forms-over-data apps. When you build those types of development tools, you have to figure out what the rendering technology will be. We chose to do it initially in Silverlight. It was very similar XAML that we were rendering, so that was the technical choice. We could have made a decision to use some other rendering technology like HTML5. The

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rendering engine isn't the interesting part of LightSwitch, it's the part about putting these forms over data."

To that end, Microsoft partner DevExpress offers XtraReports for LightSwitch, a US$99 product that creates business reports for LightSwitch ranging from contact lists to detailed sales reports. DXEditors for LightSwitch is a free download from DevExpress designed to enforce data-format rules, display images from URLs or fields, and more.

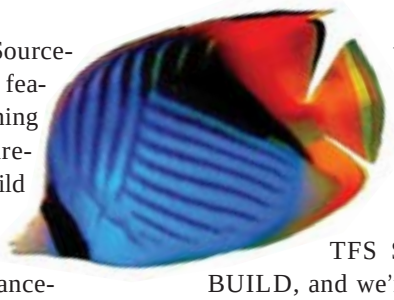
In contrast, Telerik is treading cautiously: "We made a choice not to build a tool specific for LightSwitch, but we do have hands-on guides to show how customers can incorporate our controls into LightSwitch," said Anglin. "Will a business analyst in an enterprise want these LightSwitch plug-ins? We're not yet convinced that market will exist."

Ultimately, according to Microsoft, the rumors are premature. "We've invested in creating LightSwitch, it's part of VS11 and not going away," Goodhew said. "That's orthogonal to the future of Silverlight. We're clearly making an investment in XAML, and developers should be very confident they'll be able to leverage the skills and assets they have in XAML."

He did note that another version of Silverlight is coming up soon.

TFS + Project Server = ALM

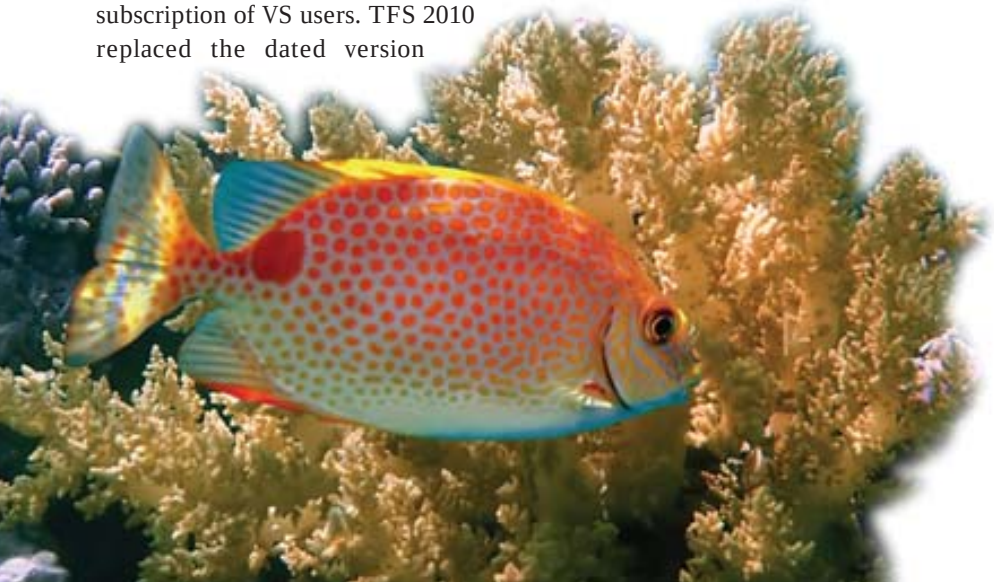
Meanwhile, another key piece of Microsoft's developer story is Team Foundation Server, which as of Visual Studio 2010 was included in the MSDN subscription of VS users. TFS 2010 replaced the dated version control system Visual SourceSafe, and broadened its feature set to include everything from project and requirements management to build automation.



With TFS 2011, there are five major enhancements, a SaaS version plus a bridge to Project Server. The new features are code reviews, storyboarding, exploratory testing and feedback manager; the cloud offering is TFS as a service; and the bridge to Project Server creates what Microsoft calls an end-to-end ALM solution.

Starting with the TFS and PS Integration Feature Pack shipped in March 2011, there's a bidirectional bridge connecting work items and tasks tracked in either tool, so that the project management organization and developer teams can connect. The integration even works with Team Explorer, Excel, Microsoft Project and SharePoint. Agile team progress is easily graphed and viewed with burn-down charts, open bugs per iteration, and stories/work item tracking.

The biggest news at BUILD around TFS was the porting to Azure of hosted TFS, which had been offered by other vendors as well as via a CodePlex unsupported open solution. Interestingly, because SQL Azure databases can't currently exceed 50GB, some changes were made to the data tier, application tier and build agent, according to Microsoft's Brian Harry, technical fellow and product unit manager for Team Foundation, who explained in October 2010 how these three layers morphed into SQL Azure, a Web role and a VM role, respectively.



"We gave out 4,000 TFS Service accounts at BUILD, and we're going to progressively open up as we get feedback and understand where the bottlenecks are," said Goodhew. "Generally, people quite like it; they like the whole concept of being able to get TFS but without needing to deploy it themselves. This is something that's attractive to smaller-size companies; you don't need to have an IT staff or a server."

But with the cloud, will uptime be consistent? On Oct. 6, Harry reported the first system-wide Team Foundation Service incident, which lasted 4.5 hours and slowed the service enough to make it "difficult to use." The cause was an as-yet-undetermined bug that congested the gateway servers to SQL Azure. "Part of the reason for running the service as a preview at this time is to learn from operating a service at scale and work out the kinks," said Harry. "We're committed to learning from every failure and ensuring that we converge on a very reliable service."

Here, too, ISVs are eager to participate in the VS/TFS ecosystem. "What we see coming in Microsoft moving TFS toward cloud, creating these interactive dashboard-style task boards, actually reinforces the model for Telerik, because we provide TeamPulse through the cloud," said Anglin. "TeamPulse is a perfect compliment to TFS, with both platforms running in the cloud."

The company has created a TFS synchronization feature so that agile teams using TeamPulse—released last year and the first project management tool in Telerik's product line—can work with TFS users seamlessly, or stand alone.

Team Foundation Server and Service aren't the end of the ALM story for Microsoft in 2011: There's more coming soon from Microsoft in vNext, announced earlier this year at TechEd by Jason Zander, corporate vice president of the Visual Studio team, as a way

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to improve collaboration; add more agility via the new backlog and task board; enable continuous testing; and encourage a DevOps approach where operations is no longer an afterthought.

"At the ALM Summit in Redmond, Nov. 14-18, we get a chance to talk about the process of making great software," said Harry. "We intentionally had fairly light coverage of our vNext ALM plans at the BUILD conference because we heavily oriented it toward the new Windows 8 capabilities. The ALM Summit is really the next time where we'll get to go deep on our future ALM plans."

Feeding the ecosystem

It's a truism that Microsoft is the leader in developer tools and partner relationships. Many comparisons have been made to the Adobe or Apple approaches to tools, platforms and partners.

"There is no question that Microsoft is one of the most successful companies at building a thriving ecosystem," said Anglin. "Microsoft, at its core, is great at maintaining that developer relationship. They build a pathway to easy success, and they're continually reinvesting in the platform."

If you compare Microsoft to Adobe and its 20-year-old Flash platform, Anglin continued, "You can't say Adobe is ineffective if you follow the money. Adobe has been a provider of tools, and in their early history they made money-selling tools to designers with Adobe Creative Suite. They don't make money off platforms, Flash, those kinds of things."

In contrast, Microsoft's server and tools business is one of the company's most profitable, "so they are severely motivated to create a great platform," said Anglin. "There are two very different motivations in these companies, and that produces two different behaviors in how they cultivate their ecosystems."

Where Microsoft "does a better job of creating a fresh and evolving developer experience, Adobe is more at the mercy of the platform," said Anglin. Apple's controlled, consumer-focused platform, coupled with its decision (off-putting to many developers) to use Objective C inside of iOS apps, creates a "different scale, vibe, energy," he said.

Certainly the success of the iPad has been a game-changer, finally mainstreaming the tablet and launching a new wave of content consumption: e-books and untethered, cloud-based apps. Indeed, some are predicting the demise of the Web as we know it, and that suddenly seems not too bizarre a prediction as cloud storage and social networks obliterate old-fashioned Web pages.

While some rejoice at Microsoft's embrace of smaller screens and less-powerful mobile devices, others are concerned that Redmond could get this wrong.

Is something the matter with Metro?

There's a debate raging over whether Metro-style touch-screen apps are beautiful or awful. There's plenty of concern around whether desktop touch-screens will ever be a significant market, but some also worry about the very design principles underpinning it all.

"I have mixed feelings about Metro," said DevExpress' Miller. "Parts of it are beautiful, and parts at this point seem to contradict the essence of what the UI should be.

"The essence of the tiles—the OS—should be clarity. If that is the No. 1 criterion for making UI decisions, then the very bright background color of the tiles with white text on top of them emphasizes the background, not the actual text. It contradicts the essence of clarity."

Miller is also concerned that the icons won't be quickly understood. That said, he liked other aspects of the UI.

"If you get past the main tiles and get into the applications, you get into some really beautiful, high-clarity presentations," he said. "I feel that what's missing are solid guidelines that say something like what the background color should be. They're essentially saying, 'Let's throw a whole bunch of colors at the user.' I'm concerned about that because I think that's going to impact sales."

If such details seem hair-splittingly minor, one need only remember Steve Jobs' description of using the calligraphy skills he learned at Reed College to create the first computer with beautiful typography. Visuals must be impeccable to compete in today's market.

The good news is that developers are eagerly exploring Metro via the developer preview, according to Goodhew: "We instrument our software so we can see what works and what doesn't. We're seeing a ton of people playing with Metro-style apps. The reality is, they have a lot more work to do. You're not

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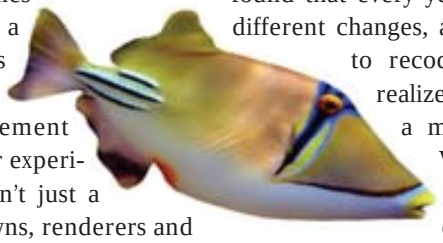
seeing a lot of people trying to build a business on this stuff now because it's just a preview."

As for design concerns, Goodhew touted Jensen Harris' talk from BUILD, which outlines eight attributes of a Metro app. (Harris is Microsoft's director of program management for the Windows user experience team.) "This isn't just a hierarchy of dropdowns, renderers and controls. People who are afraid of change don't see it this way, but this is a bold new reimagining of Windows, and it's going to present a bunch of opportunity."



Dancing with Microsoft

Indeed, every move the tools division makes ripples through the Visual Studio Industry Partner (VSIP) program, which currently boasts 180 ISVs ranging from JetBrains and Infragistics to Intel and Oracle.

"From our perspective, it's never about whether Visual Studio is stepping on our feature, it's always about shelf life," said DevExpress' Miller. "When you're creating an add-in product, you're thinking about what's the delta, what do you have that they don't. A product like CodeRush has got to be better than Visual Studio.

"Another part of the goal is for the integration to be seamless. Frequently we hear from customers who think Visual Studio is broken, and it turns out they're on a machine that doesn't have CodeRush installed." As in nature, however, symbiosis is risky: Good solutions often end up subsumed, licensed or rendered obsolete by the evolving product.

Conversely, some ISVs rejoice when Microsoft turns its attention away from their particular expertise. "Last year, Microsoft dropped the Oslo project [which encompassed model-driven application development and the M language]," said Daniel Cohen-Zardi, CEO and founder of Paris-based SoftFluent, which has recently gone international with its CodeFluent Entities for model-driven .NET business applications. "To us, it validates our approach.

"We really think this model-driven approach is the only solution. We're not model-driven for the sake of being model-driven. As a service company, we found that every year Microsoft made different changes, and we didn't want to recode everything. We realized we had to work at a more abstract level. We think we have an opportunity to demonstrate that developers need to work at a higher abstraction level."

But SoftFluent has had to refine its pursuit of those opportunities, first by expanding beyond France. "Part of the challenge for us is that the domestic market is Java-based. France is probably the worst country after Poland for .NET," laughed Cohen-Zardi, who used to work for Microsoft and remembers viewing maps of which countries boasted the most—and which the fewest—Windows users.

The cloud, too, has been tricky, as European cloud adoption has lagged far behind the U.S. thanks to strict legal constraints. "We added support for Azure and we even got coverage from SD Times," said Cohen-Zardi. "Unfortunately, what we did with Azure turned out to be only PR; it didn't generate even one customer attention. We hear a lot about the cloud, there is a lot of interest, but for now it's very futuristic and the timing is hard."

Meanwhile, other tweaks have been more successful, such as adding support for Visual Basic as SoftFluent discovered a predilection for the language among its users.

Like most VSIP members, SoftFluent is eager to work closely with Redmond to refine its offerings and reap the rewards of the Visual Studio ecosystem. What new plug-ins will emerge once VS 2011 goes live next year? Will improvements to the .NET framework inspire new third-party templates? Will asynchronous design patterns unveiled in Visual Basic launch a new wave of hyper-responsive APIs and apps? It's your turn to dive in and find out. ▮

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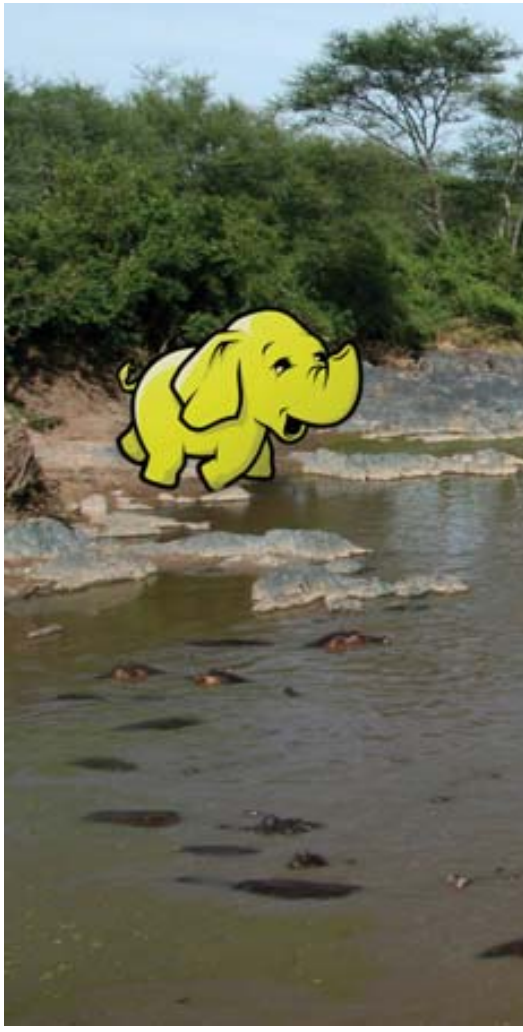


BY ALEX HANDY

When technology is widely adopted, focus moves from functionality toward solving the remaining problems. For the Apache Hadoop project, these remaining problems are many. While Hadoop is the standard for map/reduce in enterprises, it suffers from instability, difficulty of administration, and slowness of implementation. And there are plenty of projects and companies trying to address these issues.

MapR is one such company. M.C. Srivas, the company's CTO and cofounder, said that when he founded the company, it was designed to tackle the shortcomings of Hadoop without changing the way programmers interacted with it.

"The way Hadoop is deployed nowadays, you hire some Ph.D.s from Stanford and ask them to write your code as well as manage the cluster," he said. "We want a large ops team to run this, and we want to separate them from the application team."

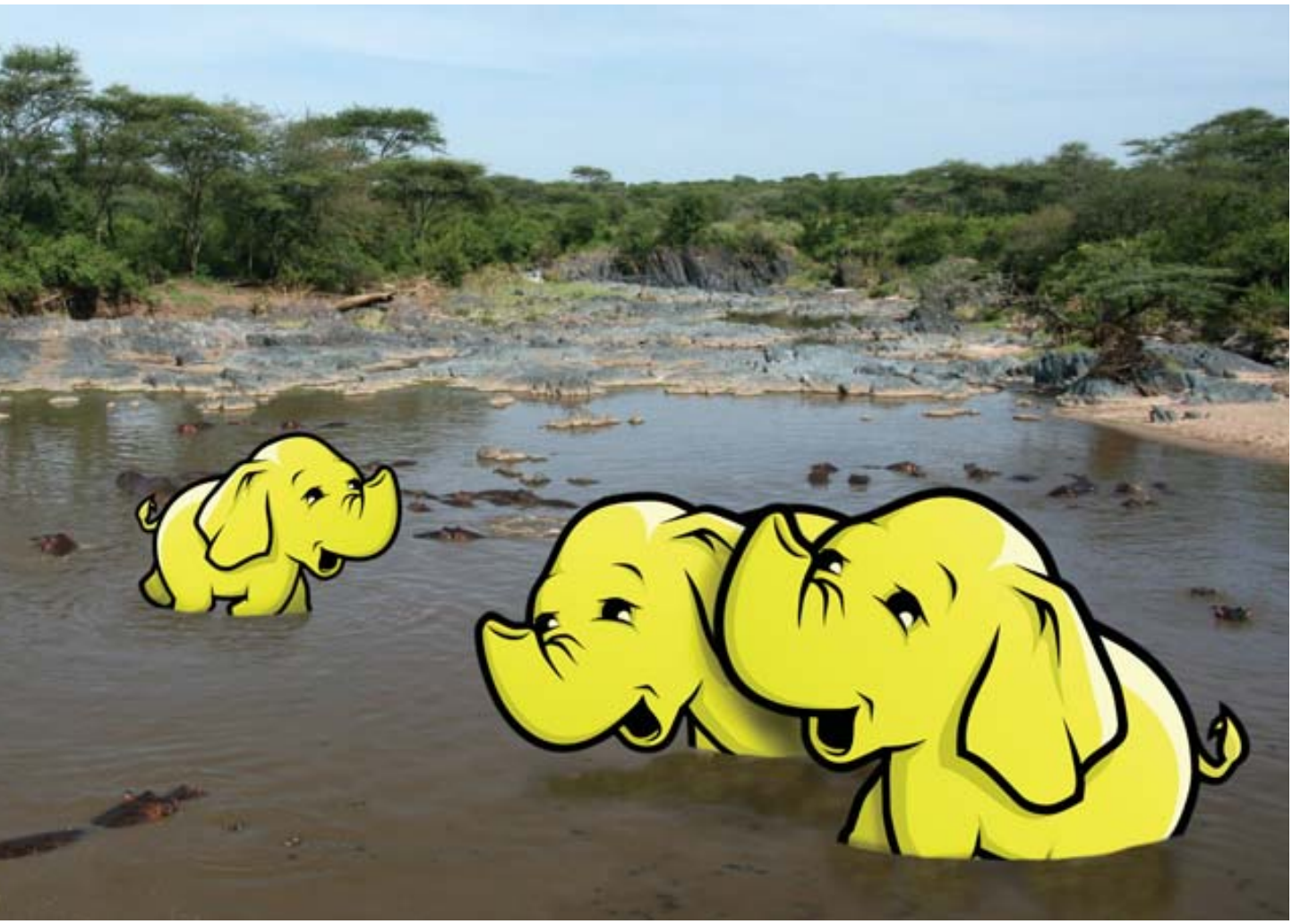
But the real secret for MapR isn't just fixing Hadoop's problems with its own distribution of map/reduce, it's also about maintaining API compatibility with Hadoop. "Hadoop is a de facto standard, and we cannot go and change that," said Srivas. "I want to go with the flow. We are very careful not to change anything or deviate from Hadoop. We keep all the interfaces identical and make changes where we think there's a technical problem.

"With the file system, we thought its architecture was broken, so we just replaced it, but kept the interfaces identical. We looked at the map/reduce layer, and we saw enormous inefficiencies that we could take care of. We took a different approach. There are lots of internal interfaces people use. We took the open-source stuff and enhanced it significantly. The stuff above these layers, like Hive and Pig and HBase, which is a pretty big NoSQL database, we kept those more or less unchanged. In fact, HBase runs better and is more reliable."

Additionally, Hadoop has a minor issue with the way it handles its NameNode. This node is the manager node in a Hadoop cluster, and it keeps a list of where all files in the cluster are stored. Hadoop can be configured to have a backup NameNode, but if both of these nodes fail, all the data in a Hadoop cluster instantly vanishes. Or, rather, it becomes unindexed, and might as well be lost.

Also, NameNode issues aren't considered to be an Achilles heel by Hadoop's original benefactor, Cloudera. Mike Olsen, CEO of Cloudera, said, "If you're prudent, you can recover from a NameNode crash quite quickly.

"One thing people often overlook about Hadoop is that it's incrementally scalable. If you need to add more servers to your cluster without any shutdown, they spin up and begin to participate in the life of the cluster. What's more common is that you get more data and you



have to repartition your data. The NameNode going down is a problem that is actively being repaired."

Srivas said that every node in a MapR cluster is also a NameNode that contains the entire file directory. Thus, a single NameNode vanishing in a MapR cluster has little effect. For Hadoop users, the current solution is to use Apache ZooKeeper, a node-management system that allows for further control of the various nodes in a cluster, and for the dynamic promotion of nodes to higher positions of authority.

The Lexis of big data

But hot new startups aren't the only ones getting in on the big-data party. LexisNexis, perhaps the original big-data company, recently released its own cluster-based big-data analytics platform to the open-source community. Known as HPCC Systems, this cluster-based platform is built around LexisNexis' Enterprise Control Language, also known as ECL.

Armando Escalante, CTO and founder of LexisNexis, said, "We invented this platform that has evolved and grown and gets better each year. We are written in C++, and we have...a data workflow language built for our platform. We developed that 10 years ago, and we have since fixed problems for sorting, linking, joins, etc."

Perhaps the most intriguing aspect of this recently open-sourced platform is its maturity. "We use this platform to deliver almost 90% of our revenue," said Escalante. "We've been doing big data for many years, before big data was big data. [On Sept. 5], we did the final step, which was putting the source code out. Before it was just binaries and a VM."

The ECL (used with HPCC) is a high-level language, which Escalante said is similar to SQL. While ECL will be a new language to most developers and business users, he insisted that it's more palatable for the enterprise business user. "Java's for programmers, and data analytics people don't want to know Java," said Escalante. "On the query side, Hive limits you. You can't encapsulate, there's no reusability and it's not Turing complete."

Whether or not enterprises sidle up to LexisNexis and MapR, it's undeniable that Hadoop and map/reduce have become the must-have tools for enterprise analytics. Ping Li, partner at venture capital firm Accel Partners, said that the promise of big-data tools like Hadoop isn't the same as traditional enterprise software. (Accel Partners is a primary investor in Cloudera.)

"I think Hadoop is not about commoditizing as much as it is about delivering a whole new set of value," he said. "It's commoditizing the processing of data. It allows you to process all the data, all the time, whereas before you couldn't actually do it and be able to afford it. By doing that, that commodi-

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An introduction to MapReduce

BY JACK NORRIS

MapReduce is a cost-effective way to process "Big Data" consisting of terabytes, petabytes or even exabytes of data, although there are also good reasons to use MapReduce in much smaller applications.

MapReduce is essentially a framework for processing widely disparate data quickly without needing to set up a schema or structure beforehand. The need for MapReduce is being driven by the growing variety of information sources and data formats, including both unstructured data (e.g. freeform text, images and videos) and semi-structured data (e.g. log files, click streams and sensor data). It is also driven by the need for new processing and analytic paradigms that deliver more cost-effective solutions.

MapReduce was popularized by Google as a means to deal effectively with Big Data, and it is now part of an open-source solution called Hadoop.

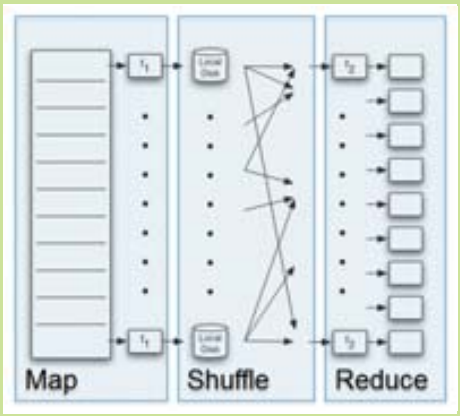
A brief history of Hadoop

Hadoop was created in 2004 by Doug Cutting (who named the project after his son's toy elephant). The project was inspired by Google's MapReduce and Google File System papers that outlined the framework and distributed file system necessary for processing the enormous, distributed data sets involved in searching the Web. In 2006, Hadoop became a subproject of Lucene (a popular text-search library) at the Apache Software Foundation, and then its own top-level Apache project in 2008.

Hadoop provides an effective way to capture, organize, store, search, share, analyze and visualize disparate data sources (unstructured, semi-structured, etc.) across a large cluster of computers, and it is capable of scaling from tens to thousands of commodity servers, each offering local computation and storage resources.

The map and reduce functions

MapReduce is a software framework that includes a programming model for writing applications capable of processing vast amounts of distributed data in parallel on large clusters of servers. The "Map" function normally has a master node that reads the input file or files, partitions the data set into smaller subsets, and distributes the processing to worker nodes. The worker nodes can, in turn, further distribute the processing, creating a hierarchical tree structure. As such, the worker nodes can all work on smaller portions of the problem in parallel.



In the Map phase, a problem is divided into pieces called "splits" and sent to different machines that process them in parallel. The Shuffle phase sorts the results and sends them to the Reducers. In the Reduce phase, the results from the Map phase are combined.

During the "Reduce" function, the master node accepts the processed results from all worker nodes, and then combines, sorts and writes them to the final output file. This output can, optionally, become the input to additional MapReduce jobs that further process the data. It is this ability to process large data sets in manageable steps that makes MapReduce particularly appealing. Programmers also appreciate being able to write MapReduce jobs in any language, including C, Java, Perl, PHP or Python, which makes it easy to incorporate existing algorithms into the Hadoop environment.

Hadoop is a complete system centered on MapReduce at its core, with other functions in supporting roles. The most important is the Hadoop Distributed File System (HDFS), which serves as the primary storage system. HDFS replicates and distributes the blocks of source data to the compute nodes throughout a cluster to be analyzed by one or more applications.

Another critical element is the NameNode, which serves as a central repository for information about HDFS, making it the equivalent of a file directory. All HDFS metadata (e.g. namespace, block locations, etc.) is stored in memory on a single node designated as the primary NameNode. The NameNode typically stores the namespace information on both a local disk and a network-attached storage (NAS) system to serve as a backup, while block locations are maintained solely in memory.

The JobTracker is responsible for determining which servers will run which MapReduce jobs, and then tracking the progress and ultimate completion of each and every job. Normally a job is assigned to a server (the DataNode) that stores the data, or to a server in the same rack. The JobTracker then works with a TaskTracker function to monitor the separately assigned tasks.

MapReduce is suitable for virtually any data-intensive application. Sample applications, in addition to its obvious use in Web crawling and search engines, include data, traffic or log analytics; image or text processing; data mining, modeling or archiving; and machine learning.

A rich, growing ecosystem

The open-source nature of Apache Hadoop creates an ecosystem that facilitates constant advancements in its capabilities, performance, reliability and ease of use. These enhancements can be made by any individual or organization—a global community of contribu-

tors—and are then either added to the basic Apache library or made available in separate (often free) distributions.

Some of these distributions offer significant enhancements to the basic Apache version. One major enhancement made recently is the ability to use the industry standard Network File System (NFS) interface, with random read and write support, in addition to HDFS. With NFS, any remote client can simply mount the cluster, and application servers can then write their data and log files directly, rather than writing first to either direct or network-attached storage. Another major enhancement overcomes the lack of high availability and data protection capabilities in the basic Apache distribution by incorporating resilient distributed architectures, snapshots and mirroring that together make Hadoop much more suitable for production deployments.

There are also a wide variety of open-source modules that leverage the MapReduce framework, and different distributions of Hadoop now integrate, harden, test and validate various collections of these. Examples include:

- Language access components (Hive and Pig)
- Database components (HBase)
- Workflow management libraries (Oozie)
- Application building libraries (Mahout)
- Complex data-processing workflow creation (Cascading)
- SQL-to-Hadoop database import/export (Sqoop)

Finally, there are significant investments being made to expand the growing number of commercial offerings in the Hadoop market. Data analytic tools, development environments, and connectors to existing data-warehouse and business-intelligence solutions are all available today to better facilitate the use of MapReduce.

In short, MapReduce is a big deal. You owe it to yourself to learn more about how this powerful tool can best help you understand and unlock the value in your own Big Data. ▮

Jack Norris is a vice president at MapR Technologies, a company that offers a commercial Hadoop distribution.

The big data shakeout has begun

MapReduce may be the bee's knees for enterprise data analysts, but it's not without its problems. For starters, James G. Kobielus, senior analyst at Forrester Research, has just finished five different reports and case studies on the current state of Hadoop, and he laid out some best practices for enterprises.

But mixed in with those best practices is an underlying problem with Hadoop. Kobielus fears that the Hadoop and map/reduce markets are entering the same type of distribution wars that Linux went through in the early 2000s.

"We have Hadoop silos. Out of necessity, all early adopters have standardized on one distribution, be it Apache, Cloudera or Greenplum," he said. "I think it's clear the winning distribution will be one of the early entrants, but now Oracle is in it, and IBM is already in it. Customers are going to be making investments in some of these distros.

"To grow, we at least need—without strangling the goose that laid the golden egg of innovation—a common reference framework with clear APIs that ISVs can build to, to help customers federate data among these disparate distributions to bring coherence to a very competitive marketplace. Governance is needed to help the Hadoop market to continue to grow and to help customers minimize the risk. If you invest prematurely in the wrong distro, then you are going to be [out of luck]. The shakeout is happening."

Thus, with this cautionary worldview in mind, Kobielus laid out the best practices for enterprise Hadoop usage:

1. Align Hadoop initiatives with Big Data business imperatives. Define a big data business strategy. Prioritize big data projects that might benefit from Hadoop. Deploy Hadoop tactically within a strategic enterprise-wide program.

2. Integrate Hadoop within your EDW Architecture. Use massive parallelism to scale out your Hadoop deployment. Identify key roles for Hadoop in your EDW environment. Select the key Hadoop components and tools for your needs.

3. Power Hadoop from enterprise-grade platforms and tools. Identify your preferred Hadoop deployment approach. Evaluate commercial Hadoop offerings. Select your primary Hadoop solution provider.

4. Build an enterprise Hadoop center of excellence. Deepen staff expertise in MapReduce. Engage with the Hadoop community. Bring in Hadoop consultants to accelerate adoption of best practices.

—Alex Handy

Diving into the Big Data pool

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tization allows new applications."

According to Olsen, "We see it now getting deployed in really interesting ways in finance, in retail, in healthcare, in government and elsewhere. I think that older enterprises are experimenting with and in some cases really rolling this stuff out in production. I predict that trend continues. It used to be that all the data in your business was well-structured data. Increasingly people are having to deal with Web logs, documents and sensor data from assembly lines. Universal data is much more interesting than it used to be. You just need a different kind of platform for that."

Perhaps the only remaining doubt in the world of Hadoop and map/reduce is around the patent Google owns for the technology. But Srivas said that Google has been a responsible citizen with this patent thus far. "The map/reduce patent was granted to Apache. We're just using that. We have not changed the algorithms inside Hadoop, we just made it very robust and much faster," he said.

MapR's vice president of marketing, Jack Norris, said that map/reduce and Hadoop are no longer in the experimental stage. He said they are now mainstream in the enterprise world.

"We're seeing a real demand for a commercial distribution with enterprise-grade features," he said. "They're moving into mission-critical uses. It's financial services, it's media, it's telco, it's government applications... It's being used for such a broad array of use cases, broad array of data sources." ▮

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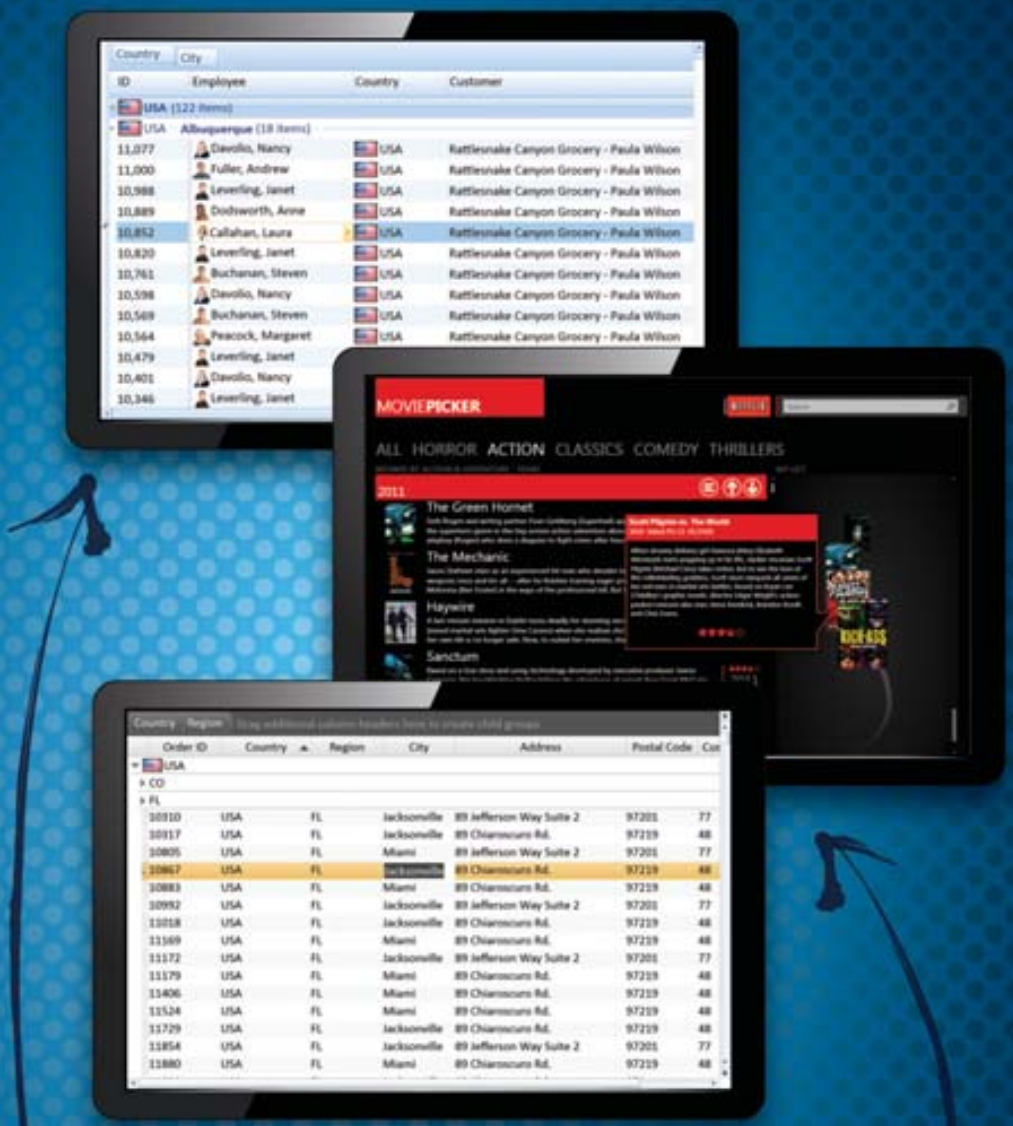

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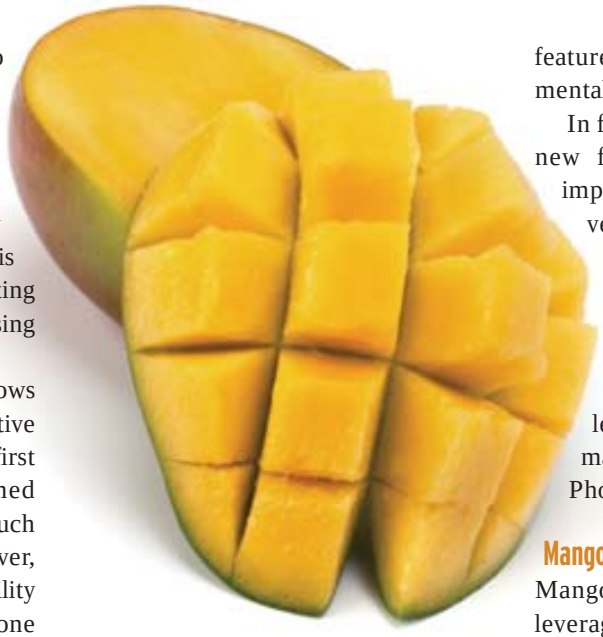
What Mango serves to developers

Multi-tasking, Silverlight 4, background processes and more are on their plate

BY PATRICK HYNDS



When Microsoft decided to reinvent its phone platform to meet the challenges that had essentially left Windows Mobile out of the race for the enormous phone market, many observers were skeptical. Though it is hard to count Microsoft out, starting over at that time seemed to be a losing proposition.

The original version of Windows Phone 7 (WP7) was clearly innovative and garnered some attention. The first significant update, codenamed "NoDo," filled in some of the gaps such as enabling copy and paste. However, the Mango update's general availability and worldwide rollout by all but one carrier has turned the view of Windows Phone 7 as a dark horse on its head.

Mango is being referred to more officially as Windows Phone 7.5, and Microsoft is back in the game as there is so much for developers in the newly upgraded and recently reinvented platform that it is hard to know where to start. All the great new features are not just aimed at developers. The target audience for Windows Phone is clearly the consumer market, but here we will concentrate on what developers can look forward to and see where the opportunities can be found.

The previously mentioned NoDo update did not change the landscape for developers, really, but Mango is a much bigger deal for both consumers and developers. David Yack, CTO of Colorado Technology Consultants, said, "Mango is clearly a significant release building on the foundation they set with the initial Windows Phone release. Microsoft is clearly listening to what features developers need and incrementally adding them."

In fact, Mango boasts more than 500 new features, many of them huge improvements, and there is a new version of the Windows Phone SDK that lets developers take advantage of it all. You can get the latest version of the SDK (Windows Phone SDK 7.1) at Create.MSDN.com, which also lets you get in on the latest information and events for Windows Phone 7.

Mango's offerings

Mango lets third-party developers leverage background processing and multi-tasking. Background processing usually would end up being a mixed blessing due to the fact that misuse can lead to misbehaved applications burning through the battery, but users can disable individual programs running in the background.

Microsoft has already defined best practices for using Background Agents to minimize the chance of rogue, battery-abusing apps. "Agents is another interesting feature that opens up the

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potential for a number of unique applications that can be built without draining battery like old-style, long-running applications," Yack said.

"Microsoft recognizing that applications needing slices of time periodically to perform actions in the background that improve the user experience while balancing the impact on the device is a huge step forward."

Multi-tasking also has the potential to pose the battery dilemma (but to a much lesser extent), and overall the payoffs for delivering great user experiences should more than make up for it. Thanks to these major additions and the Microsoft.Phone.Scheduler class, you can create Alarms and Reminders in your applications that display a dialog or play a sound.

The browser built into the phone is full-fledged Internet Explorer 9 with all the standards support that goes along with it. With that comes a WebBrowser control that also supports Internet Explorer 9 and brings with it better performance and HTML5 rendering. To round out the developer scenarios, the cookie collection is also available in Mango.

The Silverlight implementation has been updated to version 4, which is a great step forward, though there differences still remain between the Windows Phone implementation of Silverlight and the Silverlight 4 found on a desktop. For example, the controls on the Windows Phone are gesture-aware; Isolated Storage quotas are not enforced; and DTDs (document type definitions) are not supported, which also means that Parse is not supported. There are many other differences, though most make sense when you consider the context of those implementations. Either way, the upgrade of Silverlight capabilities brought by Mango will add up to being a big plus in your development efforts.

One of the most exciting things about the Mango update is the new integration with Silverlight and XNA. As many developers probably know, before the release of Windows Phone 7.5, you were relegated to creating an application in either Silverlight or XNA. Each development platform has its pros and cons, and choosing between the two can be an uncomfortable choice.

For example, while discussing when to choose between the two with Duane Laflotte, chief solutions architect of NTP Software, he said, "If a developer wanted to make a supercool racing game, XNA is the top choice. However, know that each menu, each start screen, each button, each high score list is a texture that needs to be created by the developer from the ground up. This can suck up tons of time in trying to format menus to look just right. On the flip side, Silverlight excels at making such things easy. Layout of objects in Silverlight is as easy as dragging components to the screen."

Graphical enticements

The fact that both Silverlight and XNA work together now will go a long way

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toward speeding up the development of graphical applications and games for the platform. The real magic that allows their coexistence is the ability to call SetSharingMode(). This little function now allows you to jump between the rendering engines or even use both at the same time.

Laflotte predicted, "I expect we will see much more game content due to the speed at which non-core game functions like menus can now be created, as well as much richer applications due to the raw power of using the XNA graphics engine within normal Silverlight applications."

One set of features I have been looking forward to is third-party access to the phone's Contacts and Calendar. There is also an updated version of Live Tiles that now supports push notifications to the home screen, which really strikes at the heart of the whole "Glance and Go" value proposition that was the basis of the early WP7 commercials.

Sockets are available for high-efficiency communications and ultimate flexibility. To really push things up to the next level, the sensors built into the phones can now be accessed by your apps, including the compass and gyro. The combined motion API provides all kinds of data that can be leveraged for games or controls. Rotation rate, acceleration and attitude controls (i.e. yaw, pitch and roll) are all available now. The list goes on and on.

"Build it and they will come" is a nice sentiment, but in the rough-and-tumble game of mobile phones, you have to make it irresistible, easy and have people screaming from the rooftops. With Mango closing the holes in the technology, the next big obstacle is adoption. Yack said, "What is interesting is the biggest obstacle seems to not be on the developer side, but how to get a Windows Phone in someone's hands to try, as once they do, they love it."

The major drivers of any platform include how good the apps are, how diverse the solutions they deliver are, and how easy it is to get at those apps and solutions. The new Web-based marketplace shows that Microsoft recognizes this and is making strides. The marketplace lets users select applications for download from any device with a browser, and it can even send them to friends by using Facebook and Twitter. This might even be the kind of thing that turns the innovation tide enough to directly challenge Apple.

In spite of there being many other features, many developers will be quite happy to know that Visual Basic is now supported for both Silverlight and XNA development on Windows Phone. In Figures 1 and 2, you can see that all the application templates available for C# for Windows Phone are also available for VB.net.

If you have been on the sidelines in wait-and-see mode thus far, then Mango marks the point where you should jump in and get developing. The indications are that Microsoft is in the mobile space to stay, and the opportunities for developers are real. ▮

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Software engineering: Art or Science?

Experts say developers, designers need skills in both areas

BY VICTORIA REITANO

Software development and design is part art and part science, but which part wins out in most projects? It seems even the most prolific developers disagree.

Capers Jones, software quality expert, says it is 90% art and 10% science.

"There's no way to prove [software development] is a science. There's no board certification," he said. "Eventually, it will be board-certified, but for now, the knowledge of quality today is roughly the same as doctors had before sterile procedures." He added that it will be a combination of calls for certification from vendors and end users that will ultimately change the process of development.

Standardizing the development process, as well as requiring software developers, engineers and designers to take a variety of tests and certifications, will, in Jones' mind, help make software quality better.

Jones believed a stricter and more standardized certification process is most needed for mission-critical projects, such as medical devices, aircraft, and in the financial sector and beyond. Today, he said, the FDA certifies medical devices such as hearing aids and pacemakers, and he believed that is a step in the right direction.

This certification process makes the software development process more scientific, Jones said. Science, according to Joe Pezzillo, cofounder of Push IO (a mobile cloud services platform), is based on one's ability to create a pattern based on a repeatable formula that almost guarantees a common end result.

Pezzillo said that a successful software project "depends on how closely [art and science are] balanced and how one dominates the other in a specific ratio." He said it also varies by type of software.

"If you're working on a piece of financial software, the science should be perfect. This type of app doesn't allow developers to express themselves. You don't want to try out cool, new things in a financial application," he said.

Much creativity in mobile

Mobile applications seem the most creative to end users, Pezzillo said, because developers are charged with transporting users to another world, a world that really is only limited by a developers' imagination.

Mobile devices, in Pezzillo's opinion, are much more immersive, and yet the science still has to be correct.

"GarageBand is so amazing because it is creative, but the science still has to be right," he said. "You don't want to hit the G key and get an A chord. But end users wouldn't want to see a graph of these notes either; they'd rather see the piano user interface."

The creativity of these applications feels strong because of all the things

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developers are able to do with the same "rectangle," as Pezzillo called today's devices.

There are literally millions of applications, and yet each one is aesthetically different while still performing with scientific accuracy.

Wallace McClure, lead consultant at Sustainable Development, said the best developers are the ones who understand both sides of this argument.

"I have always felt that software development is a little bit of science/engineering and a little bit of art rolled up together," he said. "It is like building a building. You have to understand many of the basics of the building will fall over. You also need to have architects, which are charged with the visual/artistic aspects of a building."

Addressing end users

Building software requires team members to understand the basics, he added. "You have to understand sorting, threading, async operations, user interfaces controls, database constructs, and many other items. These are important base items that we as developers must know.

"At the same time, developers have to have a 'vision.' Typically, this term 'vision' is associated with art or many other terms. This art/vision type of thinking really helps in the ability to look beyond logic."

Pezzillo agreed that developers should have some engineering and artistic background. He said design is not just about how the application looks, but it's also about how end users feel when they're using it.

"Design is about purpose. How easy is the application to use? How does it render visually? And then you get into user experience stuff as well," he said, adding that designers are not scientific and yet produce scientifically accurate applications, which is where that precarious balance between the two comes in.

Robert "Uncle Bob" Martin, president and CEO of Object Mentor, agreed with McClure and Pezzillo.

"Software engineering [and] software development crosses the boundary [between art and science], because within a framework of rules, there's a lot of freedom for humans to form something that is beautiful, something that transcends the mathematics, something that is greater than the sum of its parts," he said.

Martin added that agile methodologies focus on the human element and on the craftsmanship, and that perhaps the pendulum has swung a bit too far in that direction at this point in time.

"In the 1970s and 1980s, there was a such a focus on the engineering element that the creative element was almost drowned out," he said. "Now, there is such a focus on the agile processes, which rely greatly on the creative." He added that there needs to be a balance between the two in order for all projects to be successful.

Martin suggested thinking of software development as martial arts. "There are lots of rules and principles in martial arts, but the exercise of it is

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very human and beautiful," he said.

Ivar Jacobson, father of the Rational Unified Process, said art and science really don't define the overall process of developing software, which he referred to as software engineering.

The term "code engineering," Jacobson said, implies that everything done in the process—from gathering the requirements and an understanding of who will use it and how it will be used—will be expressed in code, which is rarely how any of the methodologies function. Because of this, he said, software engineering is the most appropriate term for what is done by developers on a daily basis.

"It is more like a craftsmanship, based on experience, skills and talent," Jacobson said, adding that as with any craftsmanship, everyone is not necessarily gifted with the same skills nor do they possess the ability to do the same things.

"You need to know 'how' to do things, and in some cases you need to do things [like reviewing requirements, developing and testing] in a sequence. You learn the best way to develop as you go."

Educational adjustments

Much of today's engineering work is automated, Jacobson said, so many developers are talented, but their talents are not necessarily used on the coding part of development. The business processes are also an important part of today's work, which takes another set of skills, he said.

Most learning, according to Jacobson, is done in the work world, but it should be done through a developer's education. Many in the community, including Jacobson, are working toward aligning the education of software developers with the reality of the profession.

A group of senior-level developers are currently working toward a standard by which software developers can be measured, something that can help employers ensure they have hired someone who is fluent in the craft, according to Martin.

"There is a growing movement toward apprenticeship in software development," Martin said, adding that Ken Auer just started an academy to promote this sort of activity. Martin said this is a worldwide movement, with several different academies already established in the United States.

Auer began his program through RoleModel Software in 1998 in his North Carolina offices, and he has continued to grow the apprenticeship program to what it is today. RoleModel Software Academy recently unveiled a new model to train developers, and will begin its first semester in May 2012.

Martin said regulations will eventually be established, although he is not sure if it will resemble the way doctors and architects work, or if it will be more like the way electricians and plumbers work.

In the end, Jacobson said beyond an art or a science or a craftsmanship, it comes down to individual talent: Some developers can create certain types of software while others can't, which is why so many work in a team to create an overall successful project.

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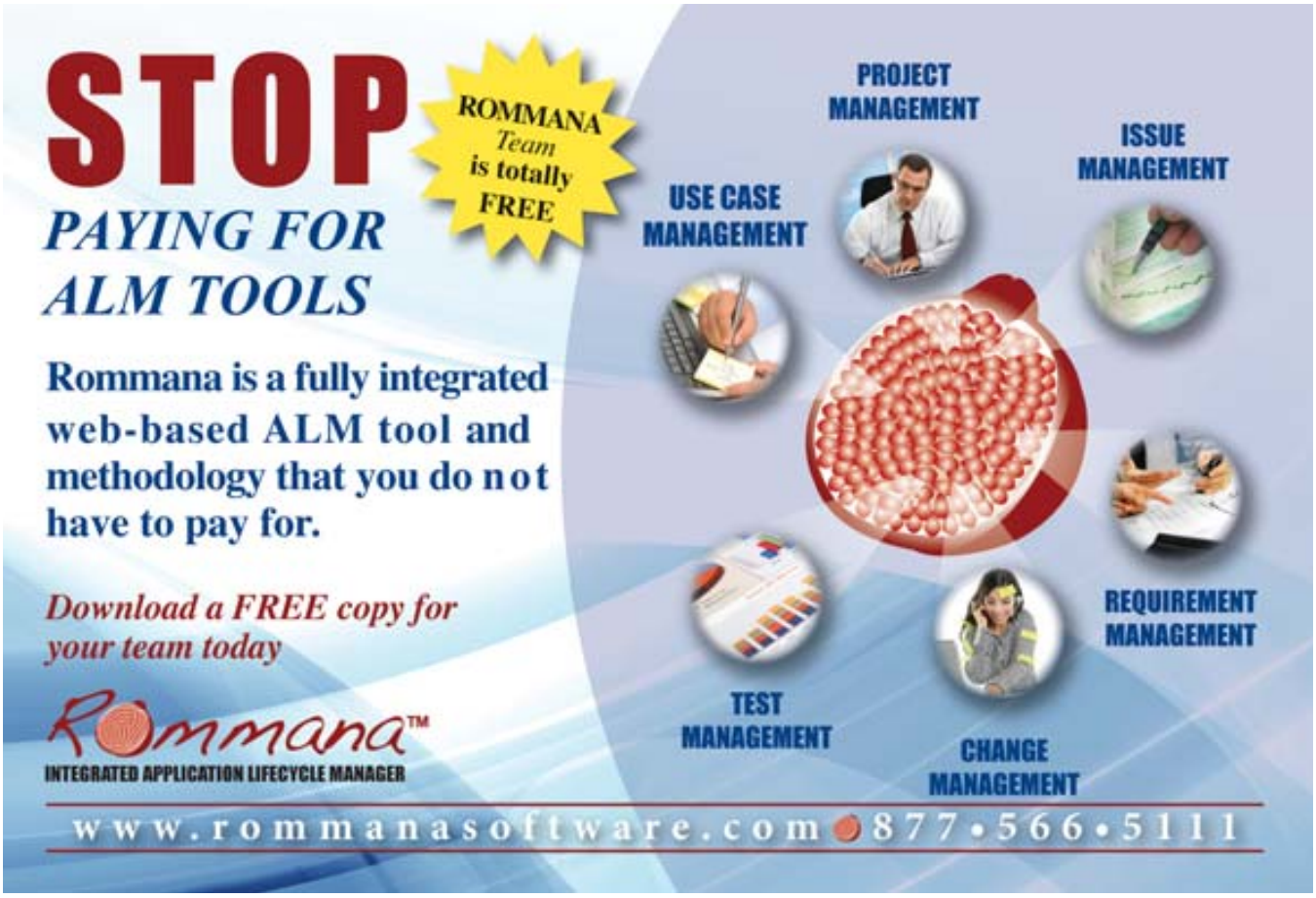
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Chris Gunther, cofounder and developer at Room 118 Solutions, agreed with Jacobson.

"I believe software development is not an art, but rather a craft as it is ultimately defined by its ability to solve a need for an end user," he said. "Beautifully written code doesn't count for much when it fails to solve the needs of the end user, and vice versa; poorly written code will have little negative effect on the end user when it successfully solves their needs.

"I think the craft side of software development becomes more of a necessity when working alongside other developers. Code that clearly reflects the domain model and is well organized becomes self-documenting and allows fellow developers to collaborate and understand the domain much easier."

Gunther believed that science plays a role in development, but mainly due to the experiments used to find the perfect combination of code and the fact that developers are always building on top of older theories and ideas.

Pezzillo said some designers will also be scientists and vice versa.

"Some engineers and designers are one and the same, like Leonardo Da Vinci. There will always be people who embody both aspects in a strong way," said Pezzillo. He added that in today's world of downsizing, developers need to continue to improve their skills, both artistically and scientifically. ▮

Immersing in the craft of creating software

A glimpse at the movement to build academies for training apprentices

BY VICTORIA REITANO

The concept of a software craftsman include anyone who makes software, such as developers, designers, architects and those who communicate with customers, according to Ken Auer, founder and master software craftsman at RoleModel Software.

Auer is a participant in a new movement among software developers. He, and others like him, believe software is a craft that should be certified and taught through immersion courses.

Auer's company has taken on apprentices since its foundation in 1997, and he has now opened an academy, which will be accepting its first eight apprentices in 2012. The RoleModel Software Craftsmanship Academy program begins with a six-month course where software craftsman apprentices are immersed in development, mainly working with object-oriented programming.

Auer got the idea for teaching via immersion when he was working at Knowledge Systems Corp. with Smalltalk, a foundational object-oriented language that came out of Xerox in the late 1980s. He had not learned anything about object-oriented programming in college, so he was forced to pick it up on the go based on his own experiences.

In 1998, Auer presented a workshop—Software as a Studio Discipline—at OOPSLA (Object-Oriented Programming Systems and Languages). It was out of that workshop that he knew that taking on additional apprentices, beyond the one or two he taught privately at the inception of the company, was necessary, he said.

It was this workshop that led him to believe that the apprenticeship program, similar to that used by his clients, mostly people who shoe horses in North Carolina, would be a successful way to teach software.

Ken Auer's apprentice program replicates the immersion he experienced when he was learning software development.

"Apprentices will learn by doing," said Auer. "They will be building software systems from the beginning and should understand the basics of programming."

Eight apprentices will be chosen, and after they complete the initial six months of training, they'll be moved into the one-year-internship phase portion of the program. Auer will take on an intern or two at RoleModel Software. He is currently in the process of securing partners for the remaining apprentices.

"Next, the apprentices will take a certified journeyman test, and then they will spend the next few years learning their craft," Auer said. He created this journeyman test based on his own experience and the input of the craftsmanship community, which consists of hundreds of people who signed the Manifesto for Software Craftsmanship.

Auer himself is a master software craftsman, but he said that it is a distinction currently given by others in the field after one has achieved years of experience. There is currently no test or certification authority, but he hopes an official test will be created soon.

Auer's academy is not alone, as other software craftsmen are also opening academies on the same model. But he does not anticipate incorporating these programs into traditional university programs. "The university models are so different, they'd have to change their whole way of doing things," he said. While he does not believe the traditional way of teaching software is wrong, he thinks the experience gained from the craftsmanship program would help developers build better software in the long run. ▮

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Harnessing GPU power for multicore processing

CUDA, OpenCL, Intel tools are replacing OpenMP for scientific computing and HPC

BY ALEX HANDY

Like an amoeba, processor cores seem to be dividing. With 4-, 8- and 16-core chips out there now, and even more cores coming, developers have their work cut out for them.

CPUs aren't the only place to find extra cores for your HPC applications. Graphics processing units (GPUs) are standard in most modern PCs, and if you learn how to tap into their power, you can get an extra burst of speed for those tough-to-compute algorithms.

David Intersimone, vice president of developer relations and chief evangelist at Embarcadero Technologies, said that GPUs are becoming as common as multicore processors. "We're seeing GPUs appearing everywhere, not only on desktops, but on tablets and mobile devices," he said.

"People are using them for graphics acceleration, of course. But the processors can do more. At nVidia, they're saying, 'There are gamers and then there are artists, and that's fine.' But the big energy is being put into GPU computing, and for nVidia, that's CUDA, and for those of us that want to support multiple graphics processor vendors, it's OpenCL."

Neal Robinson, senior director of global content and application support at AMD, said that the ever-increasing power of processors is diminished for developers who don't fully take advantage of multicore programming techniques.

"We've got that Moore's law issue,

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where we can't just depend on speedups in hardware to provide huge leaps forward in software performance anymore. That's where really putting to use the compute resources we're putting out there for developers makes all the difference in the world," he said.

"Developers usually don't know how many cores are in the machine, all they know is the software experience. That's where we are concentrating. We've got a good chunk of folks working on the language, making sure the tools are available."

nVidia has also been focusing heavily on CPU/GPU software development. The company has released numerous revisions of its CUDA tools, now on version 4.1. nVidia also supports OpenCL use and tooling on its cards, but it's ATI that has taken on OpenCL as its primary HPC development framework.

Both companies have a lot riding on the success of HPC development on GPUs. But it's the developers who win in the end, as all sides attempt to win over users by releasing better and easier-to-use tools.

Manju Hegde, corporate vice president of products group at AMD, was originally an employee at nVidia, but moved over to AMD last summer. Since that time, he has been heading up the development of various new tools for OpenCL users.

These tools are venturing into new territory for most developers. Load balancing, for example, is typically something done on a network. In CPU/GPU development, load balancing needs to be done to keep workloads steady on both processors.

"Facial-recognition detection in the foreground is a very GPU-intensive task," said Hegde, citing an example of where load balancing is needed. "In the background, its a CPU-intensive task. Load balancing allows you to seamlessly transfer the kernel from one processor to the other."

It's these areas of minutia that can make developing and optimizing CPU/GPU code difficult for the newcomer. That's an area that nVidia said it's addressing in its CUDA tool set.

'CAPE directive solutions are a way to get GPU acceleration without the deeper thinking that goes into parallelizing code.'

—Will Ramey, nVidia

The real key to providing that simplicity, said Will Ramey, nVidia's senior product manager for GPU computing, is distinguishing between the developers who use nVidia's CUDA tool kit.

"What we've found is that there's a really big distinction between developers who are computer scientists and academically trained in engineering, and the domain experts on the other hand: the guys who have gone through a biology, chemistry or physics type education path," said Ramey. "Unsurprisingly, they have a different set of skills and understanding of how to use the technology.

"What we're finding is that many of these domain experts—gene sequencing is an example in biology, and oil and gas exploration is an example in geology—where they have learned just enough computer programming to express the problem so the computer can do the math for them. What we find is that for the very large audience of domain experts, they are often much more comfortable working with things like Python or MATLAB or Mathematica.

"The great thing is it allows them to write portable code and take advantage of the CPU and GPU. MATLAB is a great example; their most recent release has built-in support for GPU when there's a GPU in the system."

Indeed, much of the focus at nVidia is on allowing existing applications to utilize the GPU without the actual user being required to modify code or learn new techniques, said Ramey. "If you use the MATLAB parallel-computing tool box, you can use MATLAB to write an application, save it as an executable that runs without MATLAB, and scale it across a cluster," he said.

OpenMP and friends

James Reinders, director and evangelist for Intel Software, said that Intel's Threading Building Blocks (TBB) have been received as an alternative to OpenMP. Part of this is because it offers a different approach to optimizing multi-threaded code; Cilk Plus, a set of C and C++ language extensions, tackles the parallelization problem from a different angle than OpenMP.

"Threading Building Blocks has built a community that is larger than OpenMP, and quite distinct from it because it's a C++ crowd," said Reinders.

"Threading Building Blocks has been a huge success story in the industry in terms of adoption. Adding to this, Cilk Plus uses compiler extensions. OpenMP is a set of library extensions, Threading Building Blocks is a set of libraries. There is often a debate as to which is the better approach. Cilk Plus takes a look at if we were to expand C++ with compiler extensions, what could we do?"

OpenMP, while formerly the standard for writing HPC parallel applications, has given way to newer tools such as CUDA, Intel's TBB, and OpenCL. But that doesn't mean the techniques laid out in the OpenMP philosophy are not still in use, particularly by users of C, C++ and Fortran.

"Another approach is using OpenMP-

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like directives," said Ramey. "There are domain experts who are really good at writing simple single-core code, and with a couple instructions, you can parallelize that across CPU and GPU.

"The two examples in this area are PGI Accelerator for C and Fortran. PGI Accelerator directives are a really easy way for a domain expert to take serial code and dramatically accelerate it. In a matter of days, people have been able to get 500% improvements on code they've had for years by applying these directives."

Directive solutions, such as OpenMP, are still very useful to HPC developers, said Ramey. "With CAPE [Checkpointing Aided Parallel Execution] directive solutions, companies have been building applications for years, OpenMP being the most notable and successful of these solutions. We see this as very exciting, especially within the domain expert scientist community, because it's a way to get GPU acceleration without the deeper thinking that sometimes has to go into parallelizing code, even on your desktop," he said.

OpenMP continues to be used even though newer alternatives are available. But one of those alternatives, OpenCL, is becoming a point of contention between GPU manufacturers. While both AMD and nVidia GPUs support the use of OpenCL, each GPU manufacturer sees the standard differently.

Ramey said of OpenCL: "I think there are some people who were the early adopters who were able to complete their projects and start talking about them. We're finding the developers who are choosing OpenCL tend to be more on the computer-science side, because they are more comfortable working in the low-level API, and working in C or C++.

"One of the things we're happy about at nVidia is we've chosen to support all of these options. When developers have an nVidia GPU in their system, they have the freedom of choice."

AMD's Hegde disagreed. He said that standardizing on OpenCL was a no-brainer for AMD, and that because OpenCL is an open standard, it will eventually triumph due to the lack of barriers to adoption.

To that end, Hegde and AMD are pushing OpenCL tools and driving an effort to make them open source. The hope is that making more tools available will drive adoption, despite nVidia's three-year head start with CUDA.

Said Hegde, "There will be lots of compiler work because we want to always stay true to the OpenCL promises of being cross-vendor and cross-platform. We have to go from an intermediate layer to target all the ISAs. There is tools-work that needs to be done there. Our first reference compiler will be for C++ MP, then for all remaining high-level compilers. LLVM will be first. Then the architectural specifications will be open, so we can do GCC too. We are prioritizing the consumer applications first. Then we'll use the mass-market adoption to fund the more niche applications."

Intel's Reinders said that bringing compilers into the equation offers a

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great deal more options for TBB users. "When we go back to the compiler extensions, you can take care of C developers as well," he said. "We're able to help with task-based parallelism and data problems with Cilk Plus in a way we can't with TBB, because we have the compiler helping us. The disadvantage is that you can only use this with a compiler that supports them."

Compiling support

Reinders added that the Cilk Plus approach has broader applicability to compiler developers. "To help see other compilers adopt this, we've open-sourced the implementation. There's a GNU branch looking at adding it to GCC. We do think adding parallelism and a few key concepts into the language would benefit everyone," he said.

"We're putting our actions behind that by sharing our implementation, so competing compilers can implement to the same level of performance and not have to do that work we've done already to support Cilk Plus."

And the compilers are where the action is now. Embarcadero's Intersimone said that his company will be supporting both CUDA and OpenCL via its compilers. "People like OpenCL because it supports lots of different parallel-processing systems, whether they're CPU- or GPU-based. I think it's just a matter of time before these technologies will either be embedded in the languages, or they're just part of the same runtime everyone uses," he said.

Language integrations may indeed be the next step for CPU/GPU computing. Already, various language additions for C, C++ and Fortran are available to help developers building HPC applications. Ramey said that "the directive-based approach, like the PGI Accelerator solution for C, [is effective].

"Earlier this year, someone figured out how to do something similar with Java as well. They're basically instrumenting the JVM to detect or be informed of sections of the code that would benefit from parallelization, and then the JIT compiler turns the JVM bytecode into a form that can be run on the GPU, and manages transfers back and forth."

But AMD and nVidia aren't the only teams playing in the multicore solutions space. Intel's TBB offers libraries that can be used to accelerate and optimize the inclusion of parallel code in applications. And TBB has been available for a few years now, so it is a mature product for enterprise use.

Reinders said that TBB is continuing to evolve and take advantage of the newest technologies. While GPU integration isn't yet a part of TBB, the underlying parallel development paradigms it enables are useful for any multicore developer. Additionally, Intel has put great effort into supporting the newly minted C++11 standard.

"C++11 is ratified now," said Reinders. "It's an official standard, and we have very aggressively implemented a great deal of it. We're not completely sure when we'll be done with it. We think we've implemented the features most in demand.

"We were ahead of the standard with lambda support. The most anticipated

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feature other than lambdas is variatic templates: templates with a variable number of arguments. I think we're leading the way on that. The good news for developers is that when they look to that standard, they're going to have a number of options."

Intel also supports OpenMP 3.1 in its TBB suite. "I think here, we're probably the first to implement OpenMP 3.1, which has a number of user-requested additions that make OpenMP easier," said Reinders.

Intersimone said that languages and class libraries should be the focus for the future. "We need the major languages embracing—in their language and in their standard libraries— CUDA and OpenCL," he said.

"Embarcadero has Prism, which takes advantage of .NET methods for parallel for loops and future variables. You put future on a variable and it generates the code under the covers for me. Or you declare a method as asynchronous.

'As functional language concepts get into languages like C, C++ and Java, then high-performance computing gets the benefits of that as we build new applications.'

—James Reinders, Intel

"The other area is the world of functional languages. A lot of the work people are doing and kinds of things they're working on there relate directly to high-performance systems. I think as functional language concepts get into languages like C, C++ and Java, then we sort of get the benefits of some of that as we build new applications."

Across the board, addressing parallelism in languages seems to be pushing more and more of them to support closures, also known as lambdas. Java SE 8 will include closures, and will in turn add functionality to the standard Java libraries. These new functions will be focused on spreading data across clusters, then running iterative functions across them, an execution style that is perfect for parallel systems.

While Java and C++ add closures to deal with parallelism, other developers are simply turning to functional languages, such as Clojure, Erlang and

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Scala, to write their code for multicore machines.

It's about the tools

But no matter how far and wide support for Intel's TBB, nVidia's CUDA and OpenCL is spread, at the end of the day, developers still need tools to make their lives easier. And that's where these companies are putting a great deal of effort.

AMD, in particular, has been pushing hard to develop tooling for OpenCL. Hegde said that AMD plans to release a retinue of such tooling later this year. That retinue will include profilers, debuggers, load balancers and code analyzers.

And AMD is addressing another key area where OpenCL and multicore programming are concerned: "We're offering a university kit for professors and teaching a new course. We asked, 'What are the stumbling blocks?' We decided to offer a reference version of the course. The next problem is with solutions: You've got to grade them...We automated the grading process."

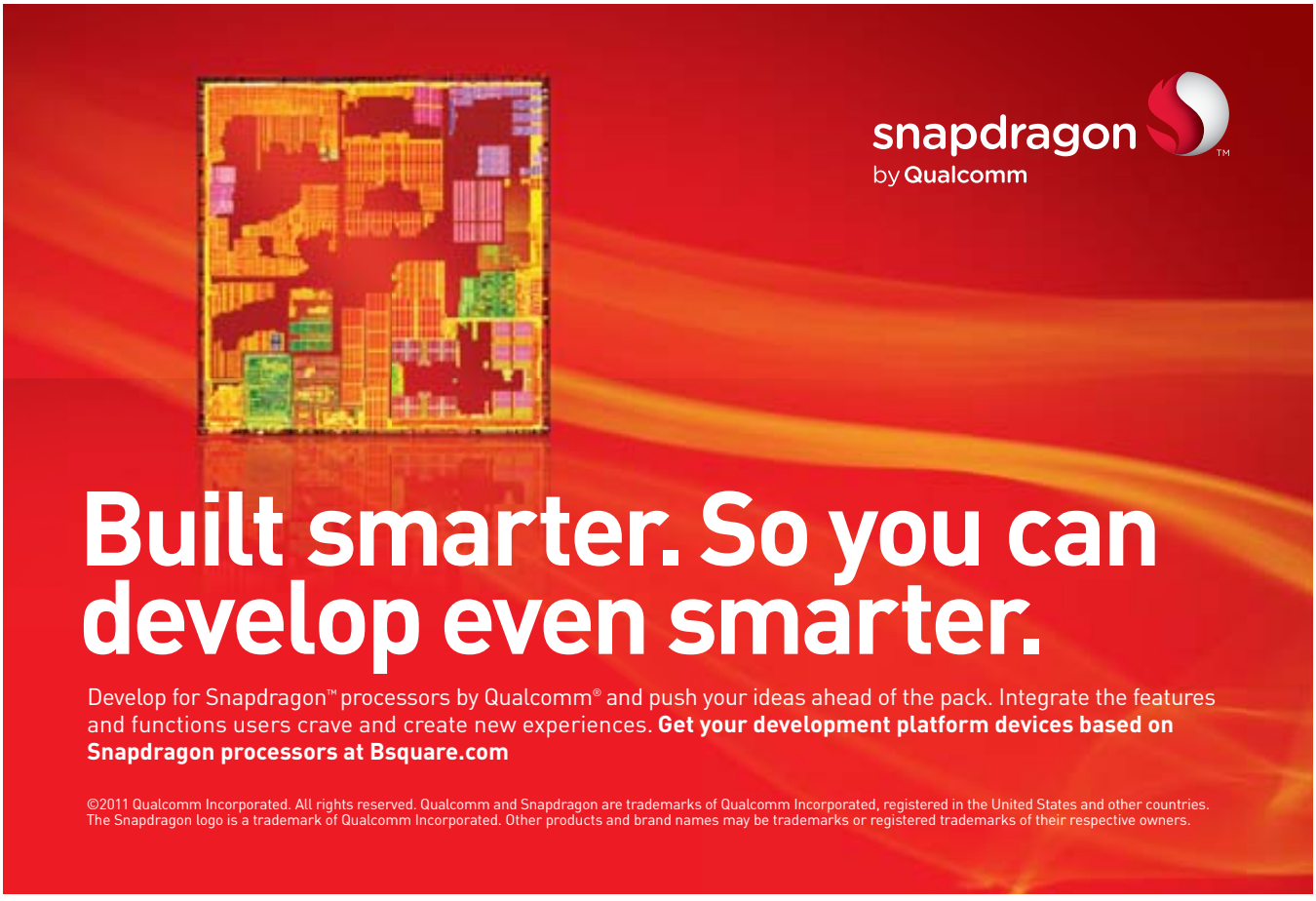
Algorithm research is also an area of interest for all the involved companies. nVidia's Ramey said, "The MAGMA project, led out of the University of Tennessee at Knoxville, is headed by Jack Dongarra. The MAGMA project has taken the approach of, instead of choosing either/or, they are researching algorithms that are able to take advantage of CPU and GPU at the same time. They'd take two matrices and multiply part on each processor."

And nVidia is continuing to improve its tools, added Ramey. "In CUDA 4.1, one of the really exciting things is a brand new visual profiler," he said. "We redesigned the performance-analysis tool that comes for free in the toolkit to guide developers step-by-step through their applications to find the hot spots and integrate with the documentation to show them how to make those hot spots go away.

"We see projects like MAGMA and CUDA Tools getting used directly in research projects and integrated into higher-level applications like MATLAB. Our strategy is working with...computer scientists in order to build this platform up higher and higher so the larger audience of domain experts can take advantage of it."

In the end, the GPU has come to be a compute resource for enterprises and academic institutions mostly by default. HPC projects have long clung to new processors and hardware technologies, but in the end, it's the software technologies that push the state of the art forward. While universities snatched up Power Mac G5s and PlayStation 3s in a desperate search for the next, cheapest way to get extreme performance out of a cluster, they should have been paying attention to the software.

"This is pretty impressive for the last five years since this GPU/CPU technology has been created to have this rich and complete of an ecosystem in place," said Ramey. "Compare this to the Cell processor, for example. The government had to fund development of that. With GPUs, because we have this massive installed base supporting the push into HPC, the ecosystem is growing by leaps and bounds." ▮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Code Watch

BY LARRY O'BRIEN

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

Here comes functional programming

Functional programming is the Next Big Thing in mainstream development. As I said in my previous column, functional programming approaches have slowly become more commonplace, not because programmers are more interested in Category Theory, but because functional approaches work with the 21st century's signature contribution to mainstream programming: unit-testing.

But FP's further rise is assured by the popularity of C# (whose evolution in recent years has been explicitly influenced by FP); the availability of F# and Scala on the two major VMs; and its prominence in academia. Functional languages (or, most likely, functional-object hybrid languages) will fill the slot between the browser (where JavaScript is deeply entrenched) and the system (where performance demands and the broad availability of gcc provoke a "better the devil you know" loyalty to C and C++).

In other words, FP fits right into the mainstream of corporate development, where legacy codebases are large, programmer productivity must be high across teams with different experience levels, and tooling is important. This is the same place where dynamic languages such as Python and Ruby have been knocking on the door for years without getting the reception they deserve.

Ruby has certainly crossed the chasm for Web development, and Python has become common in some domains (notably in science), but neither seems to have made inroads into general corporate development. One of the major issues for both is that neither is native to .NET's CLR virtual machine nor the Java Virtual Machine. While there are ports of the languages onto both the virtual machines, I get library compatibility complaints as a response to my questioning if a team has considered them. Whether such compatibility issues would go away with a few hours of configuration tweaking is something people want to talk about. F# and Scala don't have to jump through any hoops to use popular libraries. Advantage: native-to-VM languages.

A more significant advantage to functional languages over dynamic languages is IDE integration. In dynamic languages, the exact type of a variable is not fully determined until runtime, which is what makes them "dynamic." The up-and-coming functional languages are statically typed and, generally, a good portion of their language design was spent assuring that the precise type can be inferred with no (or minimal) hints from the programmer.

It's perhaps counter-intuitive that code completion should be so important to professional developers who, presumably, are familiar with the libraries and classes with which they program. But one of the things that distinguishes professional development is the broad surface area required by the professional. It's not just one or two libraries of utility functions and a GUI toolkit, it's a large and constantly changing subset of the entire platform API.

Admitting this is apparently embarrassing, so instead of saying the reason they want static typing is fast IntelliSense, people who should know better say that statically typed languages are "safer, because the compiler can catch errors that otherwise wouldn't show up until runtime." While it's true a statically typed language can detect that you've assigned a string to a double without running your code, no type system is so strict that it can substitute for a test suite. It is simply not the case that stricter type systems necessarily lead to higher quality.

Functional languages will fill the slot between the browser and the system.

But even if type-inferred functional languages combine the IDE integration and tooling of today's mainstream languages with the terseness of dynamic languages, why is it "certain" that they will displace (or control the evolution of) today's mainstream languages? The answer is concurrency. Today, regrettably, we do not have a reliable and broadly comprehensible model for developing concurrent systems. The shared-memory model of today's mainstream languages is flat-out broken; Software Transactional Memory has been unable to prove itself; and the Actor model, while a conceptual improvement to shared memory, does not address the hard problems of composition and coordination.

Concurrency is a difficult problem that can seem downright deceptive. The solution is not going to emerge from a syntax tweak to an existing language, it's going to emerge from some deep semantic thinking. The mathematical foundations of FP are essential tools to such thinking. The guides that are exploring the unknown lands are all traveling down FP paths. We don't know what lies ahead, but we can prepare ourselves for the trail. ■

Carl Zetie is Senior Strategy Manager at IBM Rational, which sells application life-cycle management tools.

Guest View

BY CARL ZETIE

OSLC: A team-first approach to ALM

It's no secret that promoting collaboration across life-cycle tools, from requirements to development to test to build, has remained stubbornly difficult. Integrations can be complex to build, expensive to maintain, and frequently broken by tool upgrades. It's easy to complain about tool integration, much harder to propose improvements; but there is a new approach to tool integration called Open Services for Lifecycle Collaboration (OSLC) that may provide the answer.

Integrating life-cycle tools has a long history. The most common approach has been to build pairwise integrations between tools, and while this is workable for a small number of integrations, the number of combinations can quickly grow unmanageably large. Version incompatibilities can also create an upgrade nightmare, often solvable only by relying on tools from a single vendor and its closest partners.

The OSLC's goal is to establish open specifications for interfaces, not to converge on common code.

In reaction to this tangle, some vendors have attempted to build single repository solutions, with all the tools integrated around a common store. However, this limits development teams to tools integrated with the repository, which severely limits choice. This "Big Bang" upgrade simultaneously replaces every tool, migrates existing data, and recreates business processes and governance rules required to adopt the single repository. As you can tell, this is impractical for any team already invested in existing tools.

Other approaches depend on collaboration among committees of vendors, users and academics. For example, there have been attempts over the years to define a uniform meta-model for ALM assets, in the hope that this would at least facilitate the importation and exportation of assets between tools. Of course, getting so many interested parties, each with its own favored tools, to agree is, to put it politely, challenging, and the market often moves too fast for the standards setters to keep pace. Similarly, attempts to get competing vendors to integrate by standardizing around a common implementation framework stumble over the need for each vendor to protect its own investment.

What's needed is new thinking about the problem. A realistic solution must be equally suitable for retrofitting to existing tools, whether from commercial vendors, open-source projects, or in-house development. As for implementing in newly developed tools, no "Big Bang" upgrades are required. The solution must address the reality that most development shops have tools from multiple sources (and even those that don't today are only one corporate merger or one novel requirement away from doing so), and upgrade them on their own schedule.

And, finally, the solution must acknowledge the need for a level playing field if vendors are to adopt it. OSLC steps up to all three of these challenges through its technical architecture, its development process, and its intellectual-property rules.

The most important thing to understand about OSLC is that the goal is to establish open specifications for interfaces, not to converge on common code. To achieve this, the technical architecture of OSLC directly mirrors that of the Web itself. A reference from one kind of asset, such as a change request, to another, such as a test case, is a URI.

To create a relationship, the change-management tool simply stores that URI as an attribute of the change request, exactly like a link on a Web page. The quality-management tool makes its assets available by publishing an agreed set of RESTful interfaces (such as GET and PUT) in exactly the same way that a Web server interacts with a browser. This simple model has a number of valuable consequences:

First, all your existing ALM assets remain where they are, with the tool that created them.

Second, OSLC offers a pragmatic, inclusive and transparent process for developing the interface specifications.

Finally, the OSLC process is designed to promote—rather than restrict—adoption. The specifications authored by the workgroups are published under Creative Commons licenses and are freely available to anybody to implement.

To succeed, OSLC only needs one more thing: more participants. If you are among the many users, vendors or open-source contributors who would benefit from simpler and stronger tools integration, take the first step: Go to open-services.net and get involved. ▮

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Analyst View

BY ROB ENDERLE

Rob Enderle is a principal analyst at the Enderle Group.

Why Google's Obama gambit will fail

As we approach the U.S. presidential election, with President Barack Obama clearly fighting for his job, there is an opportunity to do backroom deals that otherwise wouldn't be done. Once such deal supposedly in the work is for the president to step in and overturn a likely finding in Apple's favor on its International Trade Commission action to block HTC's Android phones. These are high stakes, and while it appears Google thinks Obama will dance to its tune, I doubt this outcome. Let me walk you through it.

Eric Schmidt: Obama's cheerleader

This subject came up in discussions speculating on why Eric Schmidt had become Obama's biggest cheerleader on the new jobs bill that is currently stuck in Congress. Currently, he is the only technology CEO who is lobbying heavily for the bill, and while previously his support seemed tied to his desire to succeed Gary Locke as the next Commerce Secretary, that job has gone to someone else in the interim.

What brought this to light initially was an Aug. 24 column by Holman Jenkins Jr. in The Wall Street Journal titled "Obama and the Smartphone Wars." Jenkins calls out Verizon as working behind the scenes to get Obama to overturn the likely finding that HTC was in violation of the Apple patents, and that the phones should be blocked. However, this column failed to address the likelihood that Google was operating behind the scenes to get this same result. This is why Schmidt appears to be Obama's biggest jobs bill cheerleader at the moment: It appears to be a quid pro quo (you scratch my back, I scratch yours) effort.

But, if true, I don't think this will work.

The Steve Jobs/Larry Ellison wild card

It is widely held that Apple founder Steve Jobs himself believed that Google stole his ideas for the iPhone while he was mentoring the Google founders and had Google's CEO on Apple's board. This was reported by Brad Stone and Miguel Helft in the Technology section of The New York Times in a piece titled "Apple's Spat With Google Is Getting Personal."

Had Jobs not recently passed, and if Larry Ellison was not Jobs' closest friend, Google might get away with such a strategy. In death, Jobs can't now take a reasonable course; his position is locked in concrete, which is what makes it both more powerful and more dangerous politically.

Jobs' passing has also raised him to near-saint status with one of the most powerful (and largest) user groups in terms of near-rabid support. President Obama is not only a member of this user group, but he also should be intimately aware of how powerful and vocal these people can be. Add to this that Ellison has taken the battle to Google personally in his own patent dispute with the company, the timing of that litigation appeared to be tied to his desire to help his friend Jobs out.

Ellison, who has a strong lobbying team himself, will undoubtedly make Obama aware that ruling against Apple would not be in his best interest, and Ellison has no problem creating massive publicity and outrage tied to the betrayal of Jobs.

Had Jobs not passed, and if Larry Ellison was not Jobs' closest friend, Google might have gotten away with it.

Finally, Obama clearly appears to be making his decisions in the context of being re-elected, and he certainly doesn't need another scandal. As a result, regardless of what Schmidt may think was promised, the political reality of the situation will override, and should the ITC rule against HTC and Google, Obama will not step in (though he could lobby behind the scenes for an alternative ruling if he believes he won't get caught).

In the end, Google's apparent strategy for a quid pro quo exchange with Obama could have worked had Jobs not died inconveniently, positioning powerful forces against this move. Still, it will be interesting to watch because, should the Obama jobs bill get passed, it will be as the result of no small effort by Schmidt, who likely will want something for his effort. If he doesn't get the ITC decision, one wonders what he will get as a consolation prize. We might be looking at the new ambassador to China... oh wait, that's Gary Locke's new post. ▮

Alan Zeichick is editorial director of SD Times. Read his blog at ztrek.blogspot.com.

Industry Watch

BY ALAN ZEICHICK

Measure twice, scoop once

As the well-known but oft-ignored saying goes, "You can't manage what you can't measure."

Every morning I make a pot of coffee at home. For many years, I've scooped out the coffee until it looks about right. Most mornings the coffee tastes good. Some mornings it's incredibly delicious. Some days it's too strong. Some days it's too watery.

That changed in September, after I read an article in The New York Times, "Tipping the Balance for Kitchen Scales." The author, Farhad Manjoo, uses making consistently delicious coffee as one of his anecdotes. He explained that if you use volumetric measures (like a scoop), you're not getting a consistent amount, due both to variations in the density of the substance as well as in the accuracy of eyeballing the quantity.

Following Mr. Manjoo's advice, we purchased an inexpensive Oxo digital kitchen scale. I tried scooping out coffee the old way and then measured the results. The average was around 120 grams, which made pretty good coffee—but there could be a 20-30 gram swing. Even so, 120 grams wasn't bad.

Then we started experimenting. 120 grams. 110 grams. 100 grams. 80 grams. 70 grams.

It turns out that my family loves the coffee when we use 75 grams of ground beans per pot, significantly less than what we had been making. Each day, our morning coffee is consistently perfect. (A pound of beans goes a lot further too, yielding 6.0 pots instead of 3.7 pots.)

Put down the coffee scoop and open your development dashboard. How efficient are your architects, developers, designers, testers or managers? Do you know? Have you measured source lines of code created per day? Analyzed function points? Looked at defects or security flaws per KSLOC? Counted the requirements added or changed per iteration? Elapsed time per defect remediation? Variation from time or cost estimates per feature? Time spent on non-refactoring rework? Developer time spent on non-development activities?

There are a gazillion metrics specified by ISO and CMMI, as well as other best practices widely known in our industry. Do you use them?

You can't manage what you don't measure.

If you don't measure, you don't know what is working well and where you need to improve. If you don't measure, you don't know if your fixes are making things better or are making things worse. If you don't measure, you can't drive toward consistent performance and consistent delivery.

Best of all, as my caffeine experience showed, measuring not only makes the coffee more consistently delicious, but less expensive as well. ■

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Nov. 13-16	**CA World**	Las Vegas	CA Technologies	caworld.com
Nov. 14-17	**Enterprise 2.0**	Santa Clara	TechWeb	www.e2conf.com/santaclara
Nov. 14-18	**QCon**	San Francisco	Q4Media	qconsf.com
Jan. 15-19	**Lotusphere**	Orlando	IBM Lotus	www.ibm.com/lotusphere
Jan. 25-28	**Macworld Expo**	San Francisco	IDG World Expo	www.macworldexpo.com
Feb. 27-29	**SPTechCon**	San Francisco	BZ Media	www.sptechcon.com

For a more complete calendar of U.S. software development events, see www.sdtimes.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

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From the Chairman

Make the Most of SharePoint

David Rubinstein
Conference Chairman

Dear SharePoint Professional:

We'd like to welcome you to SPTechCon: The SharePoint Technology Conference, here in beautiful, historic downtown San Francisco.

Aside from the new location, the first thing you'll probably notice about this year's conference is that we've expanded it to four days, to give you more classes to choose from, more time to engage with speakers and colleagues, and more time to enjoy "The City by the Bay."

The first day is our pre-conference workshop day, where you can take a deep dive into SharePoint from your point of view as a developer, admin or end user, for example. Then, for the next three days, you can immerse yourself in SharePoint by choosing the courses you're interested in from among the more than 80 sessions we're offering. After all the hard work is done, relax during our "Lightning Talks," and hear from our speakers and other third-party experts in rapid-fire, highly targeted talks. You might even win a prize!

On Monday, SharePoint911's Todd Klindt and Shane Young will kick things off with an opening keynote. We know you'll enjoy this session from the unofficial "Clown Princes of SharePoint."

Tuesday kicks off with a Microsoft keynote, and the opening of the exhibit hall floor, where we expect more than 50 third-party software suppliers to be demoing the tools that extend SharePoint and add on critical functionality. There's our famous ice cream social in the afternoon, and a welcoming reception on the exhibit hall floor later that evening.

While you're here, you'll have plenty of opportunities to hang out with our faculty members: Microsoft MVPs and some of the brightest consultants working in the field today. And they'll be around for the duration, available to answer your questions and even to engage in brief discussions during the breaks between sessions. Also, our staff is always available and happy to give you materials you need and to help you navigate around the conference to find the classes you're most interested in.

And on Wednesday, the Winner's Circle returns to the exhibit hall floor, where our sponsors will be giving out some great swag for stopping by their booths.

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Event Schedule

Saturday, February 25

4:30 pm – 7:00 pm	Pre-Registration Open

Sunday, February 26

7:30 am – 7:00 pm	Registration Open
8:00 am – 9:00 am	Continental Breakfast
9:00 am – 4:30 pm	Pre-Conference Workshops

Monday, February 27

7:30 am – 6:30 pm	Registration Open
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 8:45 am	Welcome
8:45 am – 9:45 am	**Todd Klindt and Shane Young Keynote**
9:45 am – 10:00 am	Coffee Break
10:00 am – 11:15 am	Technical Classes
11:30 am – 12:45 pm	Technical Classes
12:45 pm – 1:45 pm	Lunch Break
1:45 pm – 3:00 pm	Technical Classes
3:00 pm – 3:15 pm	Coffee Break
3:15 pm – 4:30 pm	Technical Classes
4:45 pm – 6:15 pm	Lightning Talks

Tuesday, February 28

7:30 am – 6:45 pm	Registration Open
7:30 am – 8:30 am	Continental Breakfast
8:30 am – 9:45 am	Technical Classes
10:00 am – 11:00 am	**Microsoft Keynote**
11:00 am – 11:30 am	Coffee Break
11:00 am – 6:45 pm	**Exhibit Hall Open**
11:30 am – 12:45 pm	Technical Classes
12:45 pm – 1:45 pm	Lunch Break
2:00 pm – 3:15 pm	Technical Classes
3:15 pm – 4:00 pm	Coffee, Ice Cream – Exhibit Hall
3:15 pm – 4:00 pm	Meetup with SharePoint Experts
3:45 pm – 5:00 pm	Technical Classes
5: 15 pm – 7:00 pm	Attendee Reception – Exhibit Hall

Wednesday, February 29

7:45 am – 4:30 pm	Registration Open
7:45 am – 8:45 am	Continental Breakfast
8:45 am – 10:00 am	Technical Classes
10:00 am – 10:45 am	Coffee Break – Exhibit Hall
10:00 am – 2:00 pm	**Exhibit Hall Open**
10:45 am – 12:00 pm	Technical Classes
12:00 pm – 1:00 pm	Lunch
1:30 pm – 2:00 pm	Dessert, Winner's Circle – Exhibit Hall
2:00 pm – 3:15 pm	Technical Classes
3:15 pm – 3:30 pm	Coffee Break
3:30 pm – 4:45 pm	Technical Classes
4:45 pm	Conference Closes

"I've attended many conferences and none, until SPTechCon, have matched my experiences at those conferences. I thought it was THAT good! Go! It's worth your time! You will meet fantastic people and world-class speakers."

—Keith Budurka, IT Director, Infrastructure, Benco Dental Company

"The best conference I ever attended."

—Antonio Andrade, IT Internet Programmer, Holland & Knight

"It's a fantastic opportunity to learn and connect."

—Kim Frehe, Business Systems Specialist, Accenture

"You'll have the opportunity to be exposed to new technologies and have great interactions with vendors. The conference was run very well."

—John Celusak, Desktop Support Specialist, NECA

EXHIBIT HALL HOURS

11:00 am – 6:45 pm Tuesday
10:00 am – 2:00 pm Wednesday

Conference Planner

Sunday, Feb. 26 **Full-Day Workshops** **9:00 am – 4:30 pm**	**Organizing Information in SharePoint Server 2010** Bill English	**Building Business Solutions: InfoPath & Workflows** Jennifer Mason and Laura Rogers	**SharePoint 2010 Administration: An Advanced Look** Todd Klindt and Shane Young	**Business Intelligence: Making the Right Choices** Peter Serzo
Monday, Feb. 27 **10:00 am – 11:15 am**	**How to Be a SharePoint Developer** Andrew Connell	**We've Got SharePoint—Now What?!** Eric Riz	**Looking Under the Hood: How Your Metadata Strategy Impacts Everything You Do** Christian Buckley	**Building a Records Management Practice** Amanda Perran
11:30 am – 12:45 pm	**Upgrading from the Business Data Catalog to Business Connectivity Services — And What to Look Forward to** Brett Lonsdale		**Upgrading to SharePoint 2010** Todd Klindt and Shane Young	**Getting the Most out of SharePoint Search** John Ross
1:45 pm – 3:00 pm	**SharePoint Guidance: Developing Applications — Foundations and Execution** Robert Bogue	**InfoPath and SharePoint Designer 2010 Workflow Best Practices** Laura Rogers	**Taming Information Chaos: Metadata, Taxonomy and Information Architecture Fundamentals** Eric Shupps	**SharePoint 2010 Branding for the Masses** Randy Drisgill and John Ross
3:15 pm – 4:30 pm	**Four Practical Uses for the Client Object Model** Peter Serzo	**Repeated: The Power of Content Types** Laura Rogers	**Office 365—How the Cloud Makes IT Easy and Why That's Difficult** John Ferringer	**SharePoint Authentication and Authorization** Liam Cleary
Tuesday, Feb. 28 **8:30 am – 9:45 am**	**SharePoint for ASP.NET Developers** Rob Windsor	**Delivering Better Business Outcomes with SharePoint Technologies** Dave Healey	**Making Peace with the User Profile Service** Todd Klindt and Shane Young	**Planning and Configuring Extranets in SharePoint 2010** Geoff Varosky
11:30 am – 12:45 pm	**Developing with SharePoint Server 2010 Metadata** Andrew Connell	**Get Ready for HTML5 and SharePoint** Heather Solomon	**SharePoint Storage: RBS for the Masses** Todd Klindt and Shane Young	**Why Should You Use FAST Search with SharePoint?** Brian Culver
2:00 pm – 3:15 pm	**Building Dynamic Applications with the SharePoint Client Object Model** Eric Shupps	**The SharePoint Maturity Model: How Far Along Are You?** Sadie Van Buren	**Is Your SharePoint Really Healthy? What's the Right Prescription?** Richard Harbridge	**The Core Pillars of an Effective Document Management Solution** Amanda Perran
3:45 pm – 5:00 pm	**Out of the Sandbox and into the Cloud: Build Your App on Azure** Andrew Connell	**Building a New Business Structure Using Office 365** Paul J. Swider	**Server Farm Architecture and Planning for Performance** Ben Curry	**The Essentials of SharePoint Disaster Recovery** Sean McDonough
Wednesday, Feb. 29 **8:45 am – 10:00 am**	**Advanced SharePoint Web Part Development** Rob Windsor	**Implementing SharePoint: A Project Manager's "How-To"** Eric Riz	**To Host or Not to Host: The Good, The Bad and The Ugly Decisions** Mark Miller	**Leveraging Web Content Management in SharePoint 2010** Christina Wheeler
10:45 am – 12:00 pm	**Using External Data Within SharePoint or Beyond the BDC/BCS Model** Phill Duffy	**ECM from a Developer's Perspective** Paul J. Swider	**Migrating from the File Systems to SharePoint (a Five-Step Process)** Dave Coleman	**The Seven Most Important SharePoint Success Factors** Richard Harbridge
2:00 pm – 3:15 pm	**CAML, REST and LINQ—Data Access Options in SharePoint 2010** Rob Windsor	**More SharePoint, Less E-mail** Kenneth Lo	**Deployment Demofest** Ben Curry	**Understanding the Five Layers of SharePoint Security** Michael Noel
3:30 pm – 4:45 pm	**Repeated: SharePoint and jQuery** Phill Duffy	**Building the Perfect SharePoint 2010 Farm: Real-World Best Practices from the Field** Michael Noel	**Building Silverlight Applications for SharePoint** Steve Pietrek	**Real-World Social Networking Adoption Strategies Leveraging SharePoint 2010** Shadeed Eleazer

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Developer's Guide to SharePoint 2010 Rob Windsor			
Introduction to SharePoint Designer 2010 Workflow Chris Beckett	**Working with Lists and Libraries** Jennifer Mason	**Leveraging the Business Intelligence Features in SharePoint 2010** Ted Pattison	**The Power of Content Types** Laura Rogers
Understanding SharePoint 2010 Roles and Responsibilities Shadeed Eleazer	**SharePoint and jQuery** Phill Duffy	**Maturing Your Business Processes in SharePoint** Sadie Van Buren and Derek Weeks	**Increasing SharePoint Engagement** Robert Bogue
Tagging Up—Managed Metadata and Taxonomies in SharePoint 2010 Chris McNulty	**Governance Best Practices n SharePoint 2010** Scott Jamison	**SharePoint 2010 as a Platform for Business Solutions** Owen Allen	**Repeated:** **Working with Lists and Libraries** Jennifer Mason
SharePoint 2010 Integration and Interoperability Richard Harbridge	**Creating Simple Dashboards Using Out-of-the-Box Web Parts** Jennifer Mason	**Repeated:** **Upgrading to SharePoint 2010** Todd Klindt and Shane Young	**Build It and They Will Come: SharePoint 2010 User Adoption** Scott Jamison
Understanding Sandboxed Solutions Chris Beckett	**Creating Custom-Branded Sites for SharePoint 2010** Randy Drisgill and John Ross	**Creating HTML5 Websites with SharePoint 2010** Ted Pattison	**Understanding How the Microsoft Ecosystem Offers Findability—Part I** Bill English
Stop Those Prying Eyes Getting to Your Data Liam Cleary	**SharePoint 2010 Foundation: Back to Basics** Owen Allen	**What Does Cloud Computing Mean for ECM and SharePoint?** Jeffrey Shuey	**Understanding How the Microsoft Ecosystem Offers Findability—Part II** Bill English
Building Native Windows Phone 7 Applications for SharePoint Steve Pietrek	**Deep Dive into the Content Query Web Part** Christina Wheeler	**Deep Dive into SharePoint 2010 Security** Ted Pattison	
Data Access with SharePoint Web Services Chris Beckett	**Go Beyond the Numbers: Data Visualization in SharePoint 2010** Chris McNulty and Sadie Van Buren	**Back at It Again... More CSS Goodness** Heather Solomon	**Boost the Performance of SharePoint Today!** Brian Culver
Building an Effective Information Architecture Strategy for SharePoint 2010 Dave Coleman	**Demystifying Information Architecture, ECM & Governance: A Real-World Approach for Implementation Success** Ben Curry	**Mastering SharePoint Migration Planning** Christian Buckley	**SharePoint 2010 Performance and Capacity Planning Best Practices** Eric Shupps
Developing a SharePoint Deployment Reference Architecture Measuring Your Deployment Against This Architecture Bill English	**SQL Denali and SharePoint: The BI Future is Now** Peter Serzo	**Creating BI Solutions with Excel Services and PerformancePoint Services** Ted Pattison	
Applied PowerShell: PowerShell for the SharePoint Server Administrator Craig Trulove	**SharePoint and SQL Reporting Services** Peter Serzo	**Together Forever—Project Server 2010 and SharePoint 2010** Chris McNulty	
SharePoint Street Smart—Delivering Content to Mobile Devices & Tablets Kenneth Lo	**Business Connectivity Services—Beyond the Beginning** Brett Lonsdale	**Gaining Total Control of Your Sites with Data View Web Parts** Dustin Miller	**Community Maturity Model and Framework: Get the Most From Your Social Media Efforts** Mark Miller

Session Levels

Overview: No previous knowledge of the class' subject is required, and the sessions will be a high-level introduction of the topic.

Intermediate: These broad technology sessions emphasize capabilities and how things work. As appropriate, the instructor will show examples.

Advanced: These sessions teach attendees how to implement a solution. As appropriate, the instructor will include detailed samples.

Topic Areas

Developer Essentials: These technical classes and workshops are geared to software developers looking to write custom applications, or to extend out-of-the-box functionality. Topics include branding, BDC/BCS, Client Object Model and more.

IT Pro Essentials: These technical classes and workshops cover topics specific to setting up and managing SharePoint Server, including permissions, farm architecture, integrations, storage and virtualization, among others.

Line of Business Essentials: These sessions are geared to business users who are looking to SharePoint for document management, search, and reporting, as well as working with lists, libraries and forms. Also, power users looking to create their own simple SharePoint applications or manipulate metadata and content would benefit from these classes.

Architecture Essentials: These classes and workshops are aimed at business, software and IT architects, and address topics such as workflow, governance, search, metadata and taxonomy, and content types.

Workshops Sunday, February 26

Full-Day Workshops
9:00 am – 4:30 pm

Organizing Information in SharePoint Server 2010

Bill English

In this presentation, the instructor will go through the information organization issues that companies are facing today. Included in this discussion are the concepts of putability, findability, e-discovery, data breaches, the Long Tail, precision, recall and relevance. The instructor will also tie these concepts to his demonstrations in SharePoint and help you understand how SharePoint can support an overall information architecture and information design for your organization.

Level: Advanced

Audience: Architecture Essentials, IT Pro Essentials

Building Business Solutions: InfoPath & Workflows

Jennifer Mason and Laura Rogers

Business Processes and forms are everywhere. In your organization, there are always forms to be filled out, and these forms usually entail some type of automation such as a workflow. Microsoft Office InfoPath is a powerful form-creation tool that lets you create highly customized and professional-looking business forms, without writing any code. When you use this product in conjunction with SharePoint and SharePoint Designer, you have all the tools you need to build a no-code automated business solution.

In this all-day session, Laura and Jennifer will teach you everything you need to know about creating a full-blown business process using SharePoint, InfoPath and SharePoint Designer. Some basics will be covered, along with common practices for form-submission approval processes and SharePoint Designer workflows. When you walk away from this session, you will be confident that whatever processes the business throws at you, you will be able to create a solution using the tools and best practices that you learned during this workshop.

Level: Intermediate

Audience: Line of Business Essentials

SharePoint 2010 Administration: An Advanced Look

Todd Klindt and Shane Young

This full-day session will cover deep admin topics. It will hit all the popular buzzwords, database GUIDs, Kerberos, Forms Based Authentication, SQL Server Reporting Services, the User Profile Service, and Search. If you've been administrating SharePoint 2010 for a while and want to make your admin knowledge deeper and wider, this is the session for you.

Level: Advanced

Audience: IT Pro Essentials

Business Intelligence: Making the Right Choices

Peter Serzo

This full-day workshop is dedicated to the Business Intelligence tools available in and to SharePoint. These tools enable organizations to gain knowledge and value from their data. This session will provide insight to no less than seven tools. These tools range from PerformancePoint to the out-of-the-box chart part.

The session will include practical guidance based on real-world experience, resulting in the attendees understanding the business needs the tools address. Furthermore, attendees will understand how to evaluate the tools based on real-world scenarios and best practices. The last part of the session will cover the impact of SQL Server 2012 on SharePoint Business Intelligence. The workshop will cover the following:

- Understanding the tools available
- How to evaluate the different tools
- BI components in detail, such as creating a report in reporting services, utilizing the chart part, composing a dashboard in PerformancePoint, and more
- Business Intelligence in SQL Server 2012

Level: Intermediate

Audience: IT Pro Essentials, Line of Business Essentials

Developer's Guide to SharePoint 2010

Rob Windsor

This session is a daylong overview of development on the SharePoint 2010 platform. We will begin with a look at foundational topics, such as Feature and Solutions Packages, and then see how we can use the developer tooling in Visual Studio 2010 to quickly and effectively build customizations contained in these artifacts. Over the course of the day, we will explore the SharePoint developer APIs, how to build custom Web Parts, work with SharePoint lists and libraries, and options to access data stored in SharePoint. An understanding of Visual Studio and ASP.NET is required.

Level: Intermediate

Audience: Developer Essentials

"Great, focused conference with something for devs, admins and power users. Best place to get new approaches to common SharePoint problems."

—Andrew Bell, Engineer, Newport News Shipbuilding

Check the website for the class schedule and MORE NEW Classes!

Technical Classes Monday, Feb. 27

10:00 am – 11:15 am

How to Be a SharePoint Developer

Andrew Connell

So you're a developer, and you've heard about this SharePoint thing and want to jump on the bandwagon? This is the session for you. Here you'll learn about the various options you have in setting up a SharePoint development environment. Then we'll explore the developer tools and build a few common features. Finally, you'll learn the best places to go to get information and help going forward, including books, classes and online forums.

Level: Overview

Audience: Developer Essentials

We've Got SharePoint—Now What?!?!?!

Eric Riz

The senior executives and stakeholders have chosen SharePoint 2010 for the new corporate portal to house document management, build some additional process to the business, and to bring the company to the next level. So, now what?

This session is designed for users who are early or midway through their implementation. We will discuss all facets of a SharePoint implementation, from project team roles to rollout strategies and planning tactics for the final release to the business. This session will be accompanied with some useful planning and execution documents for attendees to take back to their organizations and use immediately!

Level: Intermediate

Audience: Line of Business Essentials

Looking Under the Hood: How Your Metadata Strategy Impacts Everything You Do

Christian Buckley

For many users, the importance of a strong metadata and taxonomy strategy is unclear. This presentation will walk through some common end-user scenarios (adding documents to a library, participating in an enterprise workflow, finding technical expertise through some of the new social search features in SharePoint 2010), and discuss the metadata and taxonomy implications. The goal of the presentation is to show the importance of metadata and a taxonomy strategy, how the lack of a strategy can impact these common scenarios, and the ability to leverage the full functionality of SharePoint.

Level: Overview

Audience: Architecture Essentials, Line of Business Essentials

Building a Records Management Practice

Amanda Perran

Many organizations recognize the importance of an effective Information and Records Management strategy; however, they often do not have a formalized practice or team of records administrators in place to champion its development. This session will discuss taking your organization from the ground level and walk you through the key elements of building a Records Management practice in your organization and how these elements can be mapped effectively to the features available within SharePoint Server.

Level: Intermediate

Audience: Line of Business Essentials

Introduction to SharePoint Designer 2010 Workflow

Chris Beckett

SharePoint Designer 2010 brings a new level of usability and functionality to building workflows in SharePoint. This session will introduce the essentials of designing and building workflows with SharePoint Designer 2010 and customizing workflow forms using InfoPath 2010.

Level: Overview

Audience: Architecture Essentials, Line of Business Essentials

Working with Lists and Libraries

Jennifer Mason

Do you know all of the different things you can do using SharePoint lists and libraries? In this session, we will take a look at the different out-of-the-box list features and how they can be combined to build powerful no-code business solutions. We will look at the new features available in SharePoint 2010 and how they can be used to increase productivity. Some of the new features include working with lookup columns, new list settings, new view settings, inline editing and custom form creation.

Level: Intermediate

Audience: Line of Business Essentials

Leveraging the Business Intelligence Features in SharePoint 2010

Ted Pattison

This session provides a general overview of the Business Intelligence features built into the enterprise version of SharePoint Server 2010. You will learn about the individual components and services, including the Business Intelligence Center site template, the Charting Web Part, Excel Services and Performance Point Services, as well as the SharePoint 2010 integration support for SQL Server Reporting Services. The session will also describe how all these pieces fit together and how they can be used to build BI solutions for the most common scenarios that involve reporting and data analysis.

Level: Overview

Audience: Line of Business Essentials

The Power of Content Types

Laura Rogers

In SharePoint, the concept of content types seems a bit ambiguous to most people. This session will teach you what you need to know about content types to be able to implement them in your company. You may have heard that content types can be used in order to upload document templates so that they display as choices for users on a library's "New" button. Yes, that can be done, but wait, there's so much more!

In conjunction with site columns, content types can be utilized to create custom business solutions. Take your lists and libraries to the next level without having to do any custom development. In this session, demonstrations will be done to take you through common scenarios and show how to use the power of content types in SharePoint. Many of these concepts carry over from SharePoint 2007 to 2010, but new 2010 capabilities will be highlighted.

Level: Overview

Audience: Architecture Essentials, Line of Business Essentials

SPTechCon
The SharePoint Technology Conference
Feb. 26-29, 2012 → San Francisco

"The technical classes were great. There were excellent instructors and good choice of classes. Wish I could have been in two classes at the same time. Looking into cloning myself before the next conference!"

—Karen Wassell, Director, IT Architecture, DTCC

11:30 am – 12:45 pm

Upgrading from the Business Data Catalog to Business Connectivity Services—And What to Look Forward to

Brett Lonsdale

The Business Data Catalog in SharePoint 2007 provided us with a great solution for presenting line-of-business data in SharePoint and bringing external data sources together into SharePoint. In this session, we will discuss the improvements that Business Connectivity Services has to offer under SharePoint 2010, including External Lists, offline availability of data, Read Write, Office integration, and connection tools. We'll also provide an understanding of how you can upgrade your BDC solutions to work with BCS. This session will provide a great overview of BCS, arming you with everything that you need to know about upgrading from BDC to BCS.

Level: Intermediate

Audience: Developer Essentials

Intro to Visio

Jennifer Mason

Description to come. Check www.sptechcon.com for updates.

Upgrading to SharePoint 2010

Todd Klindt and Shane Young

Are you jealous of all your friends and their fancy SharePoint 2010 farms? Have no fear. In this session, you will learn how to upgrade SharePoint 2007 to 2010. We will cover the methods available and

Technical Classes Monday, February 27

how best to use them. We will also cover some of the mistakes we've made the most often, hopefully preventing you from making the same mistakes.
Level: Advanced
Audience: IT Pro Essentials

Getting the Most Out of SharePoint Search

John Ross
SharePoint Search is often one of the easiest areas to see immediate ROI from SharePoint. Although it works well out of the box, the key to unlocking the potential of SharePoint Search starts with understanding how it works. In this session, we'll discuss the different factors that determine relevancy in SharePoint and how to use them to make sure users are finding the content they are looking for. This session is designed for all users who want to get a better understanding about SharePoint Search, and to learn techniques that don't require any code to create a better search strategy for their organization.
Level: Overview
Audience: Architecture Essentials, Line of Business Essentials

Understanding SharePoint 2010 Roles and Responsibilities

Shadeed Eleazer
Defining SharePoint roles and responsibilities has long been a gray area and subsequent pain point for decision makers and recruiters. SharePoint 2010 only complicates the matter with its new features, methodologies, and user interface, compared to earlier versions of the software. In this session, attendees will receive an in-depth education on the specific ways that SharePoint 2010 transforms roles and responsibilities and equip professionals with the tools to navigate through their particular market. The session will examine how SharePoint 2010 impacts the SharePoint administrator, developer, and project manager roles and how these changes are projected to manifest within SharePoint deliverables today and tomorrow.
Level: Advanced
Audience: Developer Essentials, IT Pro Essentials, Line of Business Essentials

"Great energy, content, knowledge."
— Dennis Nason, Systems Admin,
Town of Scarborough, Maine

SharePoint and jQuery

Phill Duffy
With organizations looking to customize hosted SharePoint and Office 365 with Sandbox Solutions, the role of SharePoint Sites—which can provide the levels of functionality that end users expect—is becoming increasingly important. The requirement to create Web Parts that engage with the user and provide them with a quick, easy and friendly user interface is becoming paramount.

Luckily, we have a few tools that allow us to provide the responsiveness that is demanded of us, such as data that can be asynchronously loaded behind the scenes rather than waiting for pages to load. In this session, we will be looking at where jQuery can help us as developers provide rich user interfaces, how to call the SharePoint Web Services to retrieve data, and how to interact with elements of our HTML in the beautiful simplicity that is jQuery.
Level: Intermediate
Audience: Developer Essentials, Line of Business Essentials

Maturing Your Business Processes in SharePoint

Sadie Van Buren and Derek Weeks
In order to bring your SharePoint implementation to a greater level of maturity, your organization's business processes are a critical consideration—from the technical as well as human perspective. Feedback from SharePoint community members indicates that the biggest factor that drives SharePoint maturity upwards is the evaluation of business processes and the automation of workflows.

This session will take the audience through the Business Process Competency of the SharePoint Maturity Model, present case studies on each level of business process maturity, and share the latest survey results about how companies are using SharePoint for their business processes. Guidance on how companies can transition to the next level of maturity will be offered. Templates for self-assessment will be provided to all attendees.
Level: Intermediate
Audience: Architecture Essentials, Line of Business Essentials

Increasing SharePoint Engagement

Robert Bogue
You have it mastered from a technical perspective. The farms are in place. The developers are writing solutions packages. Now, how do you get your organization to use what you've put in place? In this session, you'll learn about what it takes to get users to use SharePoint and the barriers you'll have to push through to make it all work. Filled with real-world psychology tips, you'll walk away with techniques you can use. SharePoint may be a powerful platform—but only when users use it. Learn how to make that happen.
Level: Intermediate
Audience: IT Pro Essentials, Line of Business Essentials

1:45 pm – 3:00 pm
SharePoint Guidance: Developing Applications—Foundations and Execution

Robert Bogue
In this action-packed session, you'll get a guided tour around the foundation and execution portions of the Microsoft Patterns & Practices SharePoint Guidance. As a member of the team that built the guidance, Robert will talk through the guidance both from the perspective of the documentation generated, as well as the reference implementations and core library. Expect to leave wanting to spend more time mining the value of the SharePoint Guidance.
Level: Advanced
Audience: Developer Essentials

InfoPath and SharePoint Designer 2010 Workflow Best Practices

Laura Rogers
In your organization, forms are everywhere. InfoPath is a program that lets you quickly and easily create forms for business users to fill out and submit. The easy part is creating the form, but the more complicated part is finding out what needs to happen when it gets submitted and how to automate that process. This is where workflows come in. InfoPath forms and SharePoint Designer workflows can be used in conjunction, in order to create a complete business process.

This session will discuss and compare the different ways that forms can be submitted and streamlined, so that the life cycle of the form is efficient and logical. This includes best practices around the form's data connections, buttons, rules, views, and the workflow that sends the form through an approval process. All of this is done without code; just making the most out of InfoPath and SharePoint Designer out-of-box functionalities.
Level: Advanced
Audience: Architecture Essentials, Line of Business Essentials

Taming Information Chaos: Metadata, Taxonomy and Information Architecture Fundamentals for Enterprise Content Management

Eric Shupps
Implementation of a proper information architecture based on well-defined taxonomies and structured metadata can make information easier to find and dramatically increase productivity; however, getting it right the first time is a challenging task.

In this session, you will learn the fundamentals of structured information management in SharePoint 2010 and receive guidance from real-world scenarios that can be applied immediately within your organization. Topics include information architecture, taxonomy design, managed metadata, creation and publication of enterprise content types, use of document sets, and much more.
Level: Intermediate
Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

Special Group Discounts! *See Back Page*

SharePoint 2010 Branding for the Masses

Randy Drisgill and John Ross

When it comes to the look and feel of your SharePoint site, sometimes all you need is a little bit of custom style to move it to the next level. This session will introduce the topic of branding as it relates to SharePoint 2010 in a way that anyone can approach. We will look at some of the technologies involved in creating branding for SharePoint 2010, which will include creating a custom SharePoint 2010 theme using Microsoft Office, as well as making changes to master pages using SharePoint Designer 2010.

Throughout the session, we will discuss new features that affect branding in SharePoint 2010 such as the Ribbon, Wiki Pages and Visual Upgrade. By the end of the session, attendees will have a basic understanding of how to make their SharePoint 2010 website look more like their existing corporate Web design.

Level: Intermediate

Audience: Developer Essentials, Line of Business Essentials

Tagging U—Managed Metadata and Taxonomies in SharePoint 2010

Chris McNulty

Information architecture is never as easy as it seems. For example, do you have a hard time deciding if you should group your documents by department or by project? This session begins with a hands-on review of SharePoint's managed metadata services for taxonomies, folksonomies, tags, metadata and content types in SharePoint 2010. Attendees will learn about architecture and usage for content management, taxonomy, social networking and navigation. New for 2012, we'll be diving deeply into governance, scripting and development.

Level: Advanced

Audience: Architecture Essentials

Governance Best Practices in SharePoint 2010

Scott Jamison

Without proper governance, even the best-intentioned SharePoint deployment can go wrong. Do you want to learn how to create an effective governance plan? Would you like to understand the impact of key changes such as social features and solution development changes on your planning process? If so, join us for a timely discussion around planning your SharePoint 2010 deployment through the use of governance best practices.

Level: Overview

Audience: Line of Business Essentials

SharePoint 2010 as a Platform for Business Solutions

Owen Allen

SharePoint 2010 is a platform that supports a collection of out-of-the-box applications, and can immediately be brought to task within organizations to address business process and content requirements. Inevitably, someone within your organization suggests that SharePoint might be the basis for a larger, more focused application—perhaps something that meets a business requirement that is unique to your company!

When should new functionality be connected to, extended, or built on SharePoint 2010? What is implied by each of these approaches? What role do power users, administrators, and developers play in this race to maximize benefit while minimizing cost? How can you leverage SharePoint 2010 as a platform for business solutions within your organization? Come to this class to find out.

Level: Intermediate

Audience: Developer Essentials, IT Pro Essentials, Line of Business Essentials

Repeated: Working with Lists and Libraries

Jennifer Mason

Do you know all of the different things you can do using SharePoint lists and libraries? In this session, we will take a look at the different out-of-the-box list features and how they can be combined to build powerful no-code business solutions. We will look at the new features available in SharePoint 2010 and how they can be used to increase productivity. Some of the new features include working with lookup columns, new list settings, new view settings, inline editing and custom form creation.

Level: Intermediate

Audience: Line of Business Essentials

3:15 pm – 4:30 pm

Four Practical Uses for the Client Object Model

Peter Serzo

Before SharePoint 2010 introduced the Client Object Model, specific custom code business solutions only had two possibilities: Utilize the Server Object Model and have the code rolled out on the server, or create a solution using Web services. The issue with rolling code on the server was one of governance and security. The issue with Web services is that the developer is limited to what methods are exposed, and furthermore, writing code that was responsive without postbacks required SOAP knowledge and AJAX. jQuery filled this hole, but required another library and knowledge base.

Leveraging the Client Object Model, a developer and business can create Silverlight, .NET and ECMAScript applications that do not sit on the server. Additionally, developers do not have to learn a new technology. A real-world application of this technology will be shown in the context of four business use cases. Participants will have a clear understanding of where and when to apply this technology after this session.

Level: Intermediate

Audience: Developer Essentials

Repeated: The Power of Content Types

Laura Rogers

In SharePoint, the concept of content types seems a bit ambiguous to most people. This session will teach you what you need to know about content types to be able to implement them in your company. You may have heard that content types can be used in order to upload document templates so that they display as choices for users on a library's "New" button. Yes, that can be done, but wait, there's so much more!

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Level: Overview

Audience: Architecture Essentials, Line of Business Essentials

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"I really enjoyed SPTechCon. It was intense, like being in a parallel universe. It's a great place to find answers to problems, issues and concerns; everyone really wants to help! "

—Bisi Adebesin, Business Analys, Actionet

Office 365—How the Cloud Makes IT Easy and Why That's Difficult

John Ferringer

It's a great story: Your business desperately needs e-mail and collaboration to be successful, but let's face it, Exchange and SharePoint are far from easy to implement or run. To the rescue comes Microsoft's Office365 offering, allowing you to buy that critical e-mail and collaboration functionality as a utility. But as easy as Office365 makes this, it's still not a piece of cake to pull it off or fall in love with what you have. Because it's such a simple and compelling story, there's a tendency to gloss over, ignore, or fail to acknowledge some minor issues and limitations that can unfortunately add up to irritation, frustration, or even worse, a loss of productivity and profit.

This session is less about the numerous benefits and features of the new Office365 offerings, and more about how you need to be able to identify the small things that can trip you up and be prepared to address them proactively. It will show you how to consider some of the unexpected solutions you need to have in place to implement a cloud-based solution for business communication and collaboration and how to make sure that the possible opportunities present in Office365 can be realized by your organization without pain, frustration, or failure.

Level: Intermediate

Audience: Architecture Essentials, Line of Business Essentials

Technical Classes Monday, Feb. 27 – Tuesday, Feb. 28

SharePoint Authentication and Authorization

Liam Cleary

No matter which project, client or product you work with, there will always be a need to authenticate and authorize users into the solution. Historically, SharePoint has not always been the easiest platform to use for this, but now with the advent of SharePoint 2010, this changes the game.

In this session, we will look at the array of out-of-the-box approaches. Using a real-world business requirement, we will use the Windows Identity Foundation to create a trusted identity provider that will allow for single sign-on between other SharePoint sites. We will also perform the SharePoint configuration to implement this with the standard out-of-the-box security of SharePoint to ensure authentication and authorization is completed easily.

Using this technology, you will be able to see how SharePoint 2010 is more than capable of authenticating and authorizing users from any line of business or custom authentication store. By the end if this session, you will be able to identify the many authentication approaches, as well as when to use a specific type of authentication or authorization within your solutions.

Level: Intermediate

Audience: Architecture Essentials, Developer Essentials, IT Pro Essentials

SharePoint 2010 Integration and Interoperability

Richard Harbridge

There are countless challenges when dealing with business data. There are issues regarding servicing user requests, high data integration costs, and multiple places to administer, manage and maintain, plus more. Microsoft SharePoint is a platform than can help significantly reduce the challenges mentioned above by using an interoperable platform of connected services. In this session, we will explore SharePoint's new interoperability underpinnings as well as the BCS to determine how they can be leveraged effectively in real world scenarios.

What we will be talking about:

- SharePoint's Important Interoperability
- What is the BCS?
- External Content Types
- External Columns
- External Lists
- Extensibility and Tooling

Level: Intermediate

Audience: Architecture Essentials

"I loved the size of the conference. It was very informative and there was lots of time for interaction in the workshops."

— Sheri Barrientes, Sr. Business Analyst, Integris Health

Creating Simple Dashboards Using Out-of-the-Box Web Parts

Jennifer Mason

In this session, we will look at some basic out-of-the-box ways to create powerful dashboards for managing teams and projects. Our dashboards will be created using multiple connected Web parts all configured from the browser. This session will give you a good overview of lists, views, Web part pages and Web part connections. This is a great session for those just getting started with SharePoint and want to push the limits of out-of-the-box configuration.

Level: Intermediate

Audience: Line of Business Essentials

Repeated: Upgrading to SharePoint 2010

Todd Klindt and Shane Young

Are you jealous of all your friends and their fancy SharePoint 2010 farms? Have no fear. In this session, you will learn how to upgrade SharePoint 2007 to 2010. We will cover the methods available and how best to use them. We will also cover some of the mistakes we've made the most often, hopefully preventing you from making the same mistakes.

Level: Advanced

Audience: IT Pro Essentials

Build It and They Will Come: SharePoint 2010 User Adoption

Scott Jamison

Do you believe in SharePoint, but feel your hard work is not understood or appreciated? Do you see the value SharePoint can deliver, but feel your investment is wasted? If so, join this session to learn real-world strategies and best practices for driving end-user understanding, appreciation and adoption. This session will walk IT pros and decision makers through common end-user adoption situations and teach them how to turn naysayers and silent voices into believers!

Level: Overview

Audience: IT Pro Essentials, Line of Business Essentials

Tuesday, February 28
8:30 am – 9:45 am
SharePoint for ASP.NET Developers

Rob Windsor

SharePoint allows you to build websites, manage lists of data, collaborate on documents, and so much more—all done through a simple, easy-to-use Web interface. When you need to go beyond the built-in capabilities of the product, SharePoint also provides a rich set of APIs to code against.

This technical class is designed to introduce you to the foundational topics required to build customizations on the SharePoint platform. Specifically, this class will cover features, the solutions framework, the server object model, the Client Object Model, and building simple Web parts. This session will be valuable for those working with SharePoint 2007 or 2010. An understanding of ASP.NET or SharePoint development is required.

Level: Intermediate

Audience: Developer Essentials

Delivering Better Business Outcomes with SharePoint Technologies

Dave Healey

SharePoint's rich technology set and robust capabilities make it the perfect toolset for organizing, integrating and automating business processes and systems to drive improved organizational performance. Yet it remains poorly understood and significantly underutilized as an enabler of business strategy, value creation and ongoing process improvement.

Through a number of real-world case studies this session will demonstrate a consistent, comprehensive and repeatable approach to driving process improvement with SharePoint technologies. You will learn how to:

- Prioritize goals and objectives
- Identify key process and technology enablers
- Select appropriate improvement techniques
- Define a corresponding SharePoint technology strategy.

This session is appropriate for SharePoint 2007 and SharePoint 2010.

Level: Overview

Audience: Line of Business Essentials

Making peace with the User Profile Service

Todd Klindt and Shane Young

We've all heard horror stories about the dreaded and scary User Profile Service in SharePoint 2010. In this session, we will explain how the User Profile Service's brain thinks, and why it does some of the things it does. We will cover how things have changed for the better since SP1 was released. If the demo gods look upon us favorably, we will also walk through a configuration of the User Profile Service to show that it can be done by mortal man.

Level: Advanced

Audience: IT Pro Essentials

Planning and Configuring Extranets in SharePoint 2010

Geoff Varosky

Most companies, large or small, require contact and collaboration with external entities, whether they are vendors, clients, or contractors. SharePoint gives us the ability to open up portals for collaboration with these external entities, and this session will show you how to accomplish this using SharePoint 2010.

We will review what is required to make SharePoint "open" to the external world, and discuss scenarios regarding security and privacy. We will also

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walk through configuring Forms-Based Authentication and Claims-Based Authentication, as well as using Business Connectivity Services in SharePoint 2010 to authenticate and manage our external users. Once completing this session, you should have a firm grasp on how to configure an extranet environment using SharePoint 2010, as well as what should be considered during the planning of your extranet scenarios.

Level: Advanced

Audience: IT Pro Essentials

Understanding Sandboxed Solutions

Chris Beckett

Sandbox solutions provide the ability to build and deploy more secure and manageable solutions for SharePoint 2010. Office 365, and the increase in cloud-based SharePoint deployments, makes understanding Sandbox solutions essential knowledge for SharePoint IT pros and developers.

This session will take a deep dive into the User Code Service Architecture; explore the strengths and limitations of developing Sandbox solutions; describe how to deploy, monitor and manage Sandbox solutions; and demonstrate some practical techniques for making the most of this technology for SharePoint customization.

Level: Intermediate

Audience: Developer Essentials, IT Pro Essentials

Creating Custom-Branded Sites for SharePoint 2010

Randy Drisgill and John Ross

In this session, we will take a deeper look at how branding is actually created for SharePoint 2010. Some of the topics that will be covered include how themes and colors can be applied to custom branding assets, an in-depth look at the out-of-the-box master pages and a starter master page, upgrading 2007 master pages to work with SharePoint 2010, and how page layouts are created for SharePoint 2010. Throughout the session, we will look at how SharePoint Designer 2010, as well as other tools such as Firebug, can be used to make the job easier.

Level: Intermediate

Audience: Developer Essentials, Line of Business Essentials

Creating HTML5 Websites with SharePoint 2010

Ted Pattison

Designing SharePoint sites using HTML5 and CSS3 provides a new ability to create cross-browser Web applications and to target modern devices such as mobile phones and your CEO's iPad. However, moving to HTML5 today also involves several well-known pain points, such as dealing with varying levels of HTML5 and CSS3 support across mainstream browsers and integrating JavaScript code to deal with older browsers that do not support HTML5.

This session takes a real-word approach of extending the SharePoint 2010 environment with a custom master page, CSS files and JavaScript to reach a wide variety of HTML5-capable browsers and devices without abandoning users who are still using Internet Explorer 7 and Internet Explorer 8. The session will also examine many of the new HTML5 features, such as HTML tags, form controls, drag-and-drop, media support for audio and video playback, graphics support with the Canvas and SVG, Web Open font Format, offline storage, and geolocation. Along the way, the session will also discuss which of these new HTML features are widely supported across browsers and devices to the point where it makes sense to use in today's Web application designs.

Level: Advanced

Audience: Developer Essentials

Understanding How the Microsoft Ecosystem Offers Findability—Part I

Bill English

This first session will examine what findability is and go over the latest research on findability. The instructor will outline the core problems with findability, including a lack of understanding of what findability is, how findability is confused with search technology platforms and how most corporations want to find their information quickly and easily, but yet they can't seem to achieve this goal in spite of their best efforts and intentions.

The instructor will also outline the costs of a poor findability solution. If you've been working on ways to use SharePoint to make your information more findable, this session will help you understand the hidden problems that you must overcome in order to be successful in implementing a robust findability solution. The class will have demos on executing queries on Internet-based search engines and what you can do to make them better, and will illustrate how frustrating it is to find a document in a typical environment.

Level: Advanced

Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

11:30 am – 12:45 pm

Developing with SharePoint Server 2010 Metadata

Andrew Connell

The Managed Metadata Service application in SharePoint 2010 allows users to create and utilize taxonomies in various ways. Microsoft has included a robust taxonomy API in SharePoint 2010 that can be leveraged in custom solutions. In this session, we'll explore how you can interact with taxonomies within the Managed Metadata Service application, as well as work with metadata columns in custom solutions from a development perspective.

Level: Advanced

Audience: Architecture Essentials, Developer Essentials

Get Ready for HTML5 and SharePoint

Heather Solomon

HTML5 is the new Web hotness. If it seems daunting, or you think you have to scrap what you have now and start over, then check out this session. Learn how to put HTML5 to work today and see different ways it can enhance your SharePoint sites. And no worries, you won't be excluding anyone from accessing your site! Topics include HTML5 features, how to upgrade, and using it as a tool to improve your existing site. All demos and code are in SharePoint.

Level: Intermediate

Audience: Developer Essentials

SPTechCon
The SharePoint Technology Conference
Feb. 26-29, 2012 → San Francisco

"A great conference to learn and network with real-world implementors. All of the speakers have blogs that I follow and spending face-to-face time with them is invaluable."

—Steve Tieland, Sr. Software Engineer, Old Mutual US

SharePoint Storage: RBS for the Masses

Todd Klindt and Shane Young

To some, the Remote Blob Store is the Holy Grail of SharePoint storage. It gives us all the great SharePoint functionality, but without that heavy SQL footprint. To others, RBS is the worst thing ever as it complicates SharePoint and SQL and negatively impacts performance. In this session we will explain how RBS works, and discuss when you should and shouldn't use it. We will also configure RBS and walk through some of the common tasks you'll have to perform if you choose to use RBS in your SharePoint 2010 farm.

Level: Advanced

Audience: IT Pro Essentials

Why Should You Use FAST Search with SharePoint?

Brian Culver

Why would you pay for FAST Search? What will it take to implement FAST Search in your organization? Once it is installed, what can you do with it? This session will review common business drivers for implementing FAST Search over the SharePoint Search Server and what it takes to implement it. We will all look at the FAST features and how they improve the search experience.

Level: Intermediate

Audience: IT Pro Essentials, Line of Business Essentials

Stop Those Prying Eyes Getting to Your Data

Liam Cleary

Whether you are an architect, developer or IT professional, you will have worked on projects where security is the number one priority. In this session, we will look at the methods that can be used to secure not only access to the site via authentication, but also look at securing content from people who should not be seeing it. We will use a mix of

Technical Classes Tuesday, February 28

out-of-the-box capabilities, as well as custom code and the Microsoft Forefront product range. After this session, you will be able to successfully secure the content you need and have complete control over user access.

Level: Intermediate

Audience: Architecture Essentials, Developer Essentials, IT Pro Essentials

SharePoint 2010 Foundation: Back to Basics

Owen Allen

SharePoint 2010 Foundation is essentially this: A platform on which you can build additional functionality. The platform contains a highly flexible database, an extremely powerful engine for handling events, several ASP.NET components to create a stunning interface, an intuitive way of managing users and permissions, and a nice way of deploying new functionality.

However, beyond this, there is little more in SharePoint as a platform. You don't see any Excel services, publishing features, or even document sets, do you? That's because those features are built on top of SharePoint and are not part of the core product. Come learn what really makes up SharePoint, what Microsoft has built on top of SharePoint, and also what you can build yourself.

Level: Intermediate

Audience: IT Pro Essentials

What Does Cloud Computing Mean for ECM and SharePoint?

Jeffrey Shuey

The rise of cloud computing has put document and record managers on edge. The question is...the edge of what? In this session, the instructor will be speaking about the intersection of cloud computing and the document and records management industry. These two segments are tied together with the rise of Microsoft's SharePoint. The good news is that everyone with document and records management skills can have a job for life. There is no bad news here, just an opportunity for people to put their skills to use.

This session will highlight some of the changes and challenges that cloud computing brings, and how these changes impact the way traditional records management and "new" records management overlap. This will not be a technical deep-dive session. Rather, it will highlight some of the specific issues where cloud computing enables and expands new and existing solutions that span SharePoint and traditional ECM systems. A lively discussion is expected.

Level: Intermediate

Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

Understanding How the Microsoft Ecosystem Offers Findability—Part II

Bill English

In this second session, the instructor will discuss the negative impact that information overload exerts on achieving a robust findability solution. In the class, we will also discuss the role of e-discovery in the design of your Findability Architecture and outline how the concepts of precision, recall and relevance will impact your Findability Architecture Design. In addition, we will outline the costs of making the wrong information available to the wrong individuals and discuss how your Findability solution must integrate with your security solutions.

Finally, the instructor will offer his latest thinking on how to develop a Findability Architecture that will lead to a better ROI on your existing Microsoft investments, as well as enabling your users to be more efficient and productive. You will receive free job aids at this session to take with you to the office so that you can begin the process of implementing what you've learned in this session. We will demo how metadata can be discriminatory between documents that have very different foci, but use similar language in its content.

Level: Advanced

Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

"The wealth of knowledgeable resources and networking is fantastic."

—Linda Dodge, Technical Consultant, Coastal Consulting, LLC

2:00 pm – 3:15 pm

Building Dynamic Applications with the SharePoint Client Object Model

Eric Shupps

The Client Object Model provides developers with a rich set of tools for building remote applications using the SharePoint 2010 framework. Learn how and when to use the Client Object Model in your applications, discover how it compares to server-side development, evaluate the potential benefits, and gain a clear understanding of its functionality across multiple platforms.

Level: Advanced

Audience: Developer Essentials

The SharePoint Maturity Model: How Far Along Are You?

Sadie Van Buren

As SharePoint gains in popularity and adoption worldwide, an increasing number of resources are available to help organizations understand and navigate the different aspects of this platform. What's missing is a cohesive way to analyze and understand the whole.

The SharePoint Maturity Model applies a holistic view to a SharePoint implementation, and brings standardization to the conversation around functionality, best practices, and improvement. The speaker will take the audience through the competencies and levels, share current data from assessments against the Model, and provide templates for self-assessment. This class applies to SharePoint 2007 as well as SharePoint 2010.

Level: Advanced

Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

Is Your SharePoint Really Healthy? What's the Right Prescription?

Richard Harbridge

In many organizations, SharePoint is a critical enterprise platform. As an organization matures, the platform must mature and grow along with it to ensure it can continue to meet and exceed the needs of the business. If the SharePoint implementation is unhealthy or has problems, these will compound over time and may lead to solution, project and potentially even platform failure. This session, relevant to SharePoint 2007 and SharePoint 2010, offers steps to ensure that never happens.

A "SharePoint Health Check" will identify how healthy your SharePoint implementation is in the areas of infrastructure, performance, security, integration, search, taxonomy, governance, user adoption, usability and development. A "SharePoint Prescription" will offer many SharePoint best practices that can help make your SharePoint environment healthier based on the aforementioned areas.

Level: Intermediate

Audience: Architecture Essentials, IT Pro Essentials

The Core Pillars of an Effective Document Management Solution

Amanda Perran

Since SharePoint was introduced a decade ago, many organizations have embraced the tool as a

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mechanism to adopt better document management practices. While the platform provides features and functionality to support effective document management and collaboration, without proper planning and governance, many organizations fail at recognizing the true potential of what SharePoint can offer. During this session, we will review the core pillars of an effective document management solution and discuss how SharePoint 2010 can be configured to support these. This session will address important concepts such as:

- Creating an effective and reusable classification plan using the new and improved tools in SharePoint 2010 that optimize stakeholders' abilities to find the right document at the right time.
- Designing taxonomies and hierarchies to support business goals for collaboration, while also ensuring maximum performance and security.
- Implementing document content types in a way that allows for more effective and governed document management, without adversely impacting how users like to work.
- Managing the document life cycle from creation to expiration.

Level: Advanced
Audience: Line of Business Essentials

Building Native Windows Phone 7 Applications for SharePoint

Steve Pietrek

According to the IDC, Windows Phone 7 will surpass iOS as the number two mobile platform by 2015. The release of the "Mango" operating system is expected to bring more users to Windows phones. These users will be requesting the same native applications—including applications that access SharePoint data—they used on other mobile platforms.

Attendees of this session will learn how to build rich, powerful line-of-business Windows Phone-native applications that leverage SharePoint data. The session will then walk through the development basics (tools, emulator, XAML, styles, layouts, application settings, application bars, page navigation), retrieving data from SharePoint lists and document libraries using the Client Object Model, managing code using the MVVM development pattern, and deployment.

Level: Advanced
Audience: Developer Essentials

Deep Dive Into the Content Query Web Part

Christina Wheeler

In MOSS 2007, the Content Query Web Part (CQWP) was a very powerful control used for aggregating content from a particular list, site, or site collection. However, this Web Part had some serious drawbacks. In SharePoint 2010, the CQWP has been given a facelift with improved features and cool new ones, including the introduction of slots, which simplify working with Item Styles, and the Content-to-Content concept, which provides functionality such as related content. Some improvements to the CQWP include dynamic filters and the CommonViewFields. The CQWP in SharePoint 2010 also has improved query performance over large document libraries and lists.

Level: Advanced
Audience: Developer Essentials, Line of Business Essentials

Deep Dive into SharePoint 2010 Security

Ted Pattison

SharePoint 2010 introduces a new claims-based security model that will impact the way companies design, implement and enforce security with their SharePoint sites. This session explains the fundamental concepts of a claims-based model and shows how the new claim-based model makes it possible to use new types of security principals, such as Active Directory distribution lists and SharePoint Server Audiences. These can be used as first class security objects to securely configure access to securable objects such as sites, lists, items and documents. The session will walk through developing a custom claims provider with Visual Studio 2010, which will effectively demonstrate the flexibility of how you define the people and groups that you need to configure access.

Level: Advanced
Audience: Architecture Essentials, Developer Essentials

3:45 pm – 5:00 pm

Out of the Sandbox and into the Cloud: Build Your App on Azure

Andrew Connell

Have you evaluated sandbox solutions and know you are going to need more flexibility, control and power? We will show you a new, innovative approach to building your next SharePoint application that lets you take advantage of all the power of Azure and ASP.NET, while leveraging all that SharePoint has to offer. Your users will have no idea your application is in the cloud!

Level: Advanced
Audience: Developer Essentials

Building a New Business Structure Using Office 365

Paul J. Swider

Increasingly, people are looking to build business infrastructure using cloud-based platforms. In this session, you will learn how you can use Office 365 to start and run a new company. You will learn about the registration process, online Web presence, managing corporate data, and your domain. The topics will be relevant to companies that need to support a complex business process for larger teams.

Level: Intermediate
Audience: IT Pro Essentials, Line of Business Essentials

Server Farm Architecture and Planning for Performance

Ben Curry

So, you are ready to install or upgrade to SharePoint Server 2010 but don't know where to start? All of the options and endless combinations of service application topologies can be overwhelming. This session provides a thoughtful approach to designing your SharePoint Server 2010 server farm and gives you confidence that you are heading in the right direction. You'll learn about the service application architecture, common design decisions for scaling service applications, Web application considerations, and how your logical architecture will affect the physical farm topology.

Level: Advanced
Audience: IT Pro Essentials

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"SPTechCon is a collaborative and fact-filled conference that is led by the best and brightest of the SharePoint community. It is a go-to event because the information and solutions you can learn from here are numerous."

—Keri Russo, Business Promo Analyst, Neighborhood Health Plan

The Essentials of SharePoint Disaster Recovery

Sean McDonough

"Are my nightly SQL Server backups good enough?" "Do I need an off-site disaster recovery facility?" "How do I even start the process of disaster recovery planning?" These are just a few of the more common questions that arise when the topic of SharePoint disaster recovery comes up. As with most things SharePoint, the real answer is often "it depends."

In this session, we will look at SharePoint disaster recovery from multiple perspectives, including business stakeholder, technical owner, end user, and more. Critical concepts and terms will be explained and defined, and an effective process for analyzing and formulating a disaster recovery plan will be discussed. By the end of this session, you will be armed with the knowledge needed to plan or review a disaster recovery strategy for your SharePoint environment.

Level: Intermediate
Audience: Architecture Essentials, IT Pro Essentials

Data Access with SharePoint Web Services

Chris Beckett

SharePoint 2010 has introduced a number of new technologies to support client-side programming and remote integration. In this session, we will examine the capabilities of SharePoint ASMX Web Services, the Client Object Model, and ODATA using the List Data RESTful WCF Service.

Level: Advanced
Audience: Developer Essentials

Technical Classes Tuesday, Feb. 28 – Wednesday, Feb. 29

Go Beyond the Numbers: Data Visualization in SharePoint 2010

Chris McNulty and Sadie Van Buren

SharePoint 2010 creates brand new ways for users to chart and explore their data. Join us for a whirlwind tour of Excel Services, Power Pivot, BCS, Mapping, PerformancePoint and SQL Reporting Services. We'll go through the business case for each followed by a live demo of how the solution is built. There's something for everyone—whether or not you've ever written code! New for 2012, we'll be spotlighting self-service BI, as supplied by SQL 2008 R2, integrated with SharePoint.

Level: Intermediate

Audience: Developer Essentials, IT Pro Essentials, Line of Business Essentials

Back at It Again... More CSS Goodness

Heather Solomon

This instructor thrives on figuring out cool stuff to do in SharePoint with CSS only. Today's topic? Identifiers. If you can identify it, you can modify it. Don't pull up short at IDs and classes. Dive into the many ways you can target a SharePoint element and modify the look and feel with CSS. Descendent selectors, pseudo selectors and attribute selectors are indispensable tools with SharePoint CSS. Learn how to target specific navigation, Web parts and more.

Level: Intermediate

Audience: Developer Essentials

Boost the Performance of SharePoint Today!

Brian Culver

Is your farm struggling to serve your organization? How long is it taking between page requests? Where is your bottleneck in your farm? Is your SQL Server tuned properly? Worried about upgrading due to poor performance?

In this class, we will look at various tools for analyzing and measuring the performance of your farm. We will look at simple SharePoint and IIS configuration options to instantly improve performance, as well as discuss advanced approaches for analyzing, measuring and implementing optimizations in your farm.

Level: Advanced

Audience: Developer Essentials, IT Pro Essentials

"Prepare for three days of fun and lots of learning!"

—Danny Jessee, Sr. Software Engineer, Parsons

Wednesday, February 29 8:45 am – 10:00 am

Advanced SharePoint Web Part Development

Rob Windsor

Web Parts are the foundation of user interfaces in SharePoint. As a developer, it's relatively easy (particularly with the Visual Web Part in SharePoint 2010) to build something simple and get it deployed. But what do you do when you need to add editable properties or when you need to connect two Web Parts together?

This fast-paced, demo-heavy session covers the more advanced aspects of building Web Parts for SharePoint 2007 and 2010. We'll take a look at creating custom editor parts, building Visual Web Parts, constructing connected Web Parts, making Web Parts asynchronous, and using custom JavaScript code with Web Parts.

Level: Advanced

Audience: Developer Essentials

Implementing SharePoint: A Project Manager's "How-To"

Eric Riz

Managing the implementation of SharePoint is a comprehensive task, one that requires strong project management skills, a detailed project plan and creativity. Inefficient communication among stakeholders, poor document management practices and undefined project collaboration standards can compromise project success.

This session will walk through effective planning techniques and implementation standards for a SharePoint implementation from the perspective of a project manager. We will discuss how to create and customize a SharePoint site for effective project collaboration and monitoring, as well as analyze the project schedule and milestones in a SharePoint site. We will also generate on-demand project status reports and learn how to synchronize common project management tools with SharePoint.

Level: Intermediate

Audience: Line of Business Essentials

To Host or Not to Host: The Good, the Bad and The Ugly Decisions

Mark Miller

With all of the offerings available for implementing SharePoint, how do you choose a platform? Should you go with Office 365, a hosted solution, a hybrid, an on-premise implementation? In this session, we will take a look at all of these and set some criteria you can use to help you with your selection. We will talk about the good, the bad and the ugly when it comes to SharePoint 2010 upgrades and migrations.

Since the instructor's official title is "Senior Storyteller," we will hear some horror stories, some hero-saving stories and some fairy tales ending with memorable morals. It will be fast, it will be fun, but most of all it will be something you can take back to the office and say, "I think I've got an idea on what we should do."

Level: Intermediate

Audience: IT Pro Essentials, Line of Business Essentials

Leveraging Web Content Management in SharePoint 2010

Christina Wheeler

SharePoint is a very powerful tool that has so many powerful features other than just document management. More and more companies are utilizing the Web Content Management features of SharePoint to build external-facing websites. This session is designed to demonstrate how to leverage SharePoint's Web Content Management (WCM) features to help empower non-IT staff to manage content along for your external-facing website. This session will also cover the best practices for architecting and creating SharePoint sites using WCM.

Level: Intermediate

Audience: Architecture Essentials, Developer Essentials

Building an Effective Information Architecture Strategy for SharePoint 2010

Dave Coleman

One of the reasons many SharePoint implementations fail to meet user expectations is the lack of investment in its underlying information architecture. Some organizations see SharePoint as an out-of-the-box solution that they can simply plug in and throw content into, but it requires much thought and effort around data structure and organizational principles. This session will discuss building an effective information architecture strategy for SharePoint, including such topics as:

- Building an information architecture vision
- Requirements gathering
- Implementation strategy and approaches

Level: Intermediate

Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

Demystifying Information Architecture, ECM & Governance: A Real-World Approach for Implementation Success

Ben Curry

If you want to learn a practical approach to designing information architecture and governance, this is the session for you! Come see how to create URL taxonomies, noun taxonomies, and associated process discovery methods in a simple and straightforward approach. Last, we'll take a look at using Managed Metadata Services and other enterprise content management product features to meet the requirements defined in the first half of the session. We'll discuss how and when to leverage multiple managed metadata service appli-

cations to meet your ECM, process automation, and collaboration needs.

The attendee will learn how to discover business requirements that directly map to the overall SharePoint Server 2010 information architecture. Last, they'll learn what really matters in an information architecture plan—most information architecture plans fail because they don't address the usability and consistency required in a business platform, nor do they take into account the full scope of collaboration, ECM, and business process automation.

Level: Intermediate

Audience: Architecture Essentials

Mastering SharePoint Migration Planning

Christian Buckley

In this session, attendees will walk through a five-point methodology for migrating to SharePoint 2010 that supplements existing project management processes with a more holistic view of what it takes to successfully migrate your environments. We'll examine tactical steps, and provide guidance on this iterative approach, focusing heavily on information architecture and governance. Business decision-makers and analysts, architects, and project managers will leave with a clear picture of the gaps within their current planning efforts, and actionable steps to get back on track.

Level: Intermediate

Audience: Architecture Essentials, Line of Business Essentials

SharePoint 2010 Performance and Capacity Planning Best Practices

Eric Shupps

Deploying a SharePoint environment that can scale from several hundred to tens of thousands of users can be a daunting task that requires careful planning and testing. In this session, we will explore SharePoint capacity planning and discuss best practices for the configuration of databases, service applications, Web applications, site collections and lists. We will also review ways to avoid common mistakes and highlight tools and techniques administrators can use to monitor SharePoint performance and identify common causes of performance issues.

Level: Advanced

Audience: IT Pro Essentials

10:45 am – 12:00 pm

Using External Data Within SharePoint or Beyond the BDC/BCS Model

Phill Duffy

There's lots of guidance around getting SharePoint to talk to an external system, but what do you do next? In this session, we will be exploring the different ways to use your external data within SharePoint, from the out-of-the-box Web Parts to developing custom solutions with the BDC or BCS Object Model.

We will be looking at the roles of the out-of-the-box Web Parts, including Business Data and Business Data Related Lists, and how to make decisions in a workflow based off your External Data. Additionally, we will be building a Web Part to display the line-of-business data. Along the way, we will be looking at pitfalls, best practices and recommendations of working with the BDC and the BCS.

Level: Advanced

Audience: Developer Essentials, Line of Business Essentials

ECM from a Developers Perspective

Paul J. Swider

The SharePoint ECM programming model can be used to extend the functionality of the new ECM features and create custom document management solutions. In addition, SharePoint 2010 introduces the Managed Metadata store as the enterprise tool for managing taxonomy. In this session, you will learn how to add rich ECM functionality to your SharePoint sites, using members of the taxonomy and document management object model. When you complete the session, you will understand the pros and cons of each namespace.

Level: Advanced

Audience: Developer Essentials

Migrating from the File Systems to SharePoint (a Five-Step Process)

Dave Coleman

The Holy Grail seems to be moving your files from network shares to SharePoint document libraries, and finally closing those legacy shares out. This presentation will be a case study focused at looking at how to migrate from file systems to SharePoint. The session will also include migration strategies and best practices. The five steps—file system inventory, data cleanup, mapping of metadata, migration and validation of data—will be shown in detail and include examples.

Level: Intermediate

Audience: IT Pro Essentials

The Seven Most Important SharePoint Success Factors

Richard Harbridge

When implementing SharePoint solutions and SharePoint as an enterprise platform, there are a considerable number of non-technical (people-focused) factors that influence whether it is successful or a failure. What you can expect to see and get from this session:

- Tips and tricks relating to the non-technical challenges of SharePoint implementations that you can use tomorrow
- How to select and evaluate the right technology
- How to measure and evaluate ROI and priorities
- How to approach SharePoint projects
- How to effectively support your SharePoint environment
- How to handle and plan for new work and growth

Level: Overview

Audience: IT Pro Essentials, Line of Business Essentials

Developing a SharePoint Deployment Reference Architecture and Methods of Measuring Your Deployment Against This Architecture

Bill English

In this presentation, the instructor will offer a SharePoint Deployment Reference Architecture for your consideration and then will discuss ways to measure your current implementation against the reference architecture. Further discussions will focus on what actions to take depending on a set of given scenarios. This session is intended for Application Architects, Project Managers, Business Analysts and Consultants working with SharePoint Server 2010.

Level: Advanced

Audience: Architecture Essentials, Line of Business Essentials

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SQL Denali and SharePoint: The BI Future Is Now

Peter Serzo

SQL Server 2012 is the next version of SQL Server and it is full of Business Intelligence enhancements that affect SharePoint in a very positive way. With new tools such as Power View, users will be able to visualize their data using drag-and-drop in a Web-based environment. SQL Server Reporting Services (SSRS) has been promoted to a SharePoint Shared Service that includes data alerting and new rendering in the Open XML office format. Furthermore, the Business Intelligence Development Studio has now been architected to work within Visual Studio 2010.

What does this mean in terms of SharePoint and the BI stack? This session focuses on that question. Using SharePoint Foundation and SQL Server 2012, participants will see how SQL Server 2012 fits into the SharePoint ecosystem and architecture. The new Shared Services architecture will be reviewed. The tools, Power View and SSRS, will be specifically looked at in a SharePoint context in order to understand the ramifications of SQL Server 2012 on SharePoint BI. Participants will leave the session with a greater understanding of the impact of SQL Server 2012 on their SharePoint installations.

Level: Overview

Audience: Architecture Essentials, Developer Essentials, Line of Business Essentials

Creating BI Solutions with Excel Services and PerformancePoint Services

Ted Pattison

This session provides a deep dive into implementing business solutions in SharePoint Server 2010, using Excel Services and PerformancePoint Services. The session begins by discussing the various places that business data can live, such as SQL Server tables, SharePoint lists or inside SQL Server Analysis Services in the form of cubes and Key Performance Indicators (KPIs). The session will also introduce the core concepts of OData and explain how this new protocol can be leveraged when building custom BI solutions.

The session will examine how to leverage Excel Services to create Web-based applications that perform calculations and present charts and pivot tables to business users. There will also be a discussion of how to publish charts and pivot tables in a more granular fashion and how to access them through the new REST-based Web services.

The session concludes by discussing PerformancePoint Services and using the Dashboard Designer to create pages in a SharePoint site in which you will learn how to build interactive dashboard pages that allow your users to view and interact with KPIs, scorecards and query filters to effectively drilldown on the information stored in SQL Server Analysis Services.

Level: Intermediate

Audience: IT Pro Essentials, Line of Business Essentials

Technical Classes Wednesday, Feb. 29

2:00 pm – 3:15 pm

CAML, REST and LINQ—Data Access Options in SharePoint 2010

Rob Windsor

Lists are the data stored in SharePoint, so it should be no surprise that there are several data access options available to developers. Traditional techniques include the use of the object model to iterate list items or using CAML to query them. SharePoint 2010 adds features that make data access easier and more powerful—chief among these are the addition of joins to the CAML query syntax, LINQ to SharePoint and the REST APIs (oData).

LINQ to SharePoint allows developers to use the power of LINQ on entities generated from list schema, while the oData interface exposes list data to the enterprise via a REST-based service. In this session, we'll explore each of these options, see how they work, and discuss where they may fit into your SharePoint applications.

Level: Advanced

Audience: Developer Essentials

More SharePoint, Less E-mail

Kenneth Lo

E-mail has been perceived as the best invention since sliced bread; however, it has also become a chore to monitor, organize, and respond to the constant inflow of e-mail messages. In this session, we will learn no-code solutions that leverage document management and collaboration functionalities within SharePoint 2010 to maximize your productivity. Did we already mention that no coding would be required for this high-octane session? You will learn:

- How to speed up e-mail by 500%
- How to reclaim your inbox space instantaneously
- How to always work with the correct versions of documents
- How to conduct 80% of your daily tasks in Outlook & OneNote 2010
- How to automate business processes using lightweight workflows
- How to set up self-service alert subscriptions

Level: Intermediate

Audience: Line of Business Essentials

Deployment Demofest

Ben Curry

This session is full of real-world lessons and learned tips and tricks from the field. The instructor will give you a LIVE guided tour of a multi-server farm deployment, service application configuration, and ECM tips and tricks. Learn the basics for creating and managing Web and service applications, scaling services, and selecting basic server farm topologies for most implementations.

There are lots of MSDN and TechNet articles for how to configure a server farm, but nothing beats someone who has "been there, done that" lead an audience through some of the more challenging and ambiguous portions of configuration. After the session, attendees will have increased confidence they can build Web applications, service applications, and configure a multiple server SharePoint Server 2010 farm.

Level: Advanced

Audience: IT Pro Essentials

Understanding the Five Layers of SharePoint Security

Michael Noel

One of the biggest advantages of using SharePoint as a document management and collaboration environment is that a robust security and permissions structure is built into the application. Authenticating and authorizing users is a fairly straightforward task, and administration of security permissions is simplified. Too often, however, security for SharePoint stops there, and organizations don't pay enough attention to all of the other considerations that are part of a SharePoint security stack, and more often than not, don't properly build them into a deployment. This includes diverse categories such as Edge, Transport, Infrastructure, Data, and Rights Management Security.

This session discusses the entire stack of security within SharePoint, from best practices around managing permissions and ACLs to comply with Role Based Access Control, to techniques to secure inbound access to externally-facing SharePoint sites. The session is designed to be comprehensive, and includes all major security topics in SharePoint and a discussion of various real-world designs that are built to be secure.

- Understand how to use native technologies to secure all layers of a SharePoint environment, including Data, Transport, Infrastructure, Edge, and Rights Management.
- Examine tools and technologies that can help secure SharePoint, including AD Rights Management Services, Forefront Unified Access Gateway, SQL Transparent Data Encryption, and more.
- Understand a Role-Based Access Control permissions model and how it can be used to gain better control over authorization and access control to SharePoint files and data.

Level: Advanced

Audience: IT Pro Essentials

Applied PowerShell: PowerShell for the SharePoint Server Administrator

Craig Trulove

This will be a deep dive into the more advanced applications of PowerShell as it pertains to SharePoint. Attendees should have a working knowledge of both PowerShell and SharePoint. This session will deal with using PowerShell to solve common SharePoint challenges, as well as to automate deployment tasks. In addition, it will show how to write PowerShell functions for reuse and touch on the best practices to allow for more efficient code maintenance and script upkeep. Topics covered include, but are not limited to:

Upgrade challenges solved with PowerShell:

- Reset all content back to site definition
- Upgrade the UI
- Using remoting to solve multi-farm challenges

Solution and content deployment challenges solved with PowerShell:

- Deploying/Retracting Solutions
- Enabling/Disabling Features
- Updating Navigation Settings
- Adding Web Parts to Pages
- Web.config or Host Header Changes

Governance challenges solved with PowerShell:

- Audit/Enforce Versioning Settings
- Audit/Enforce Quota Templates

Reusable scripting:

- When does it make sense?
- Helpful patterns and practices

Level: Advanced

Audience: IT Pro Essentials

SharePoint and SQL Reporting Services

Peter Serzo

SQL Reporting Services 2008 is an underutilized tool that can give your organization the competitive edge, given its ability to very quickly transform a humble SharePoint site into a dynamic and interactive source for timely, personalized corporate data. A well-placed chart on a SharePoint site can have a tremendously positive effect on user evangelism and ultimate buy-in and adoption of SharePoint as a platform.

This session will introduce SQL Reporting Services 2008 and its architecture within SharePoint. The session will present drill-down and parameterized queries showing off the integration with SharePoint. Included will be a case study on how a modeling agency creates sexy, powerful and dynamic reports with no code.

Level: Advanced

Audience: IT Pro Essentials, Line of Business Essentials

Together Forever—Project Server 2010 and SharePoint 2010

Chris McNulty

Although SharePoint 2010 provides many tools useful for project management, enterprise users often require more sophisticated tools for resource management, business intelligence and forecasting, project planning, portfolio management and issue resolution. Project Server can be simple to install, but requires care to implement, integrate and sustain successfully.

We'll review our project management maturity model to help you plan when Project Server is right for your enterprise, and how to use SharePoint or Project Server to meet your real needs. We'll also review successful patterns for implementing SharePoint business intelligence solutions for Project Server data. Finally, we'll review best practices in deployment and administration, project management, SharePoint integration and user security.

Level: Intermediate

Audience: IT Pro Essentials, Line of Business Essentials

3:30 pm – 4:45 pm

Repeated: SharePoint and jQuery

Phill Duffy

With organizations looking to customize hosted SharePoint and Office 365 with sandbox Solutions, the role of SharePoint Sites—which can provide the levels of functionality that end users expect—is becoming increasingly important. The requirement to create Web Parts that engage with the user and provide them with a quick, easy and friendly user interface is becoming paramount.

Luckily, we have a few tools that allow us to provide the responsiveness that is demanded of us,

such as data that can be asynchronously loaded behind the scenes rather than waiting for pages to load. In this session, we will be looking at where jQuery can help us as developers provide rich user interfaces, how to call the SharePoint Web Services to retrieve data and how to interact with elements of our HTML in the beautiful simplicity that is jQuery.
Level: Intermediate
Audience: Developer Essentials

Building the Perfect SharePoint 2010 Farm: Real-World Best Practices from the Field

Michael Noel

SharePoint 2010 has matured over the past year, with improvements in scalability, enterprise search, and administration. This session goes right to the heart of the matter, providing physical and virtual architecture guidelines and specific configuration settings that can immediately be used to construct SharePoint 2010 environments that can be used to replace existing SharePoint 2007 farms. Architectural specifics are based on best practices obtained from existing SharePoint 2010 environments of multiple sizes, and performance metrics gathered from both physical and virtual SQL Server and SharePoint environments will help you build the "perfect" SharePoint 2010 farm for your organization.

- View real-world SharePoint 2010 deployment models for environments of multiple sizes, including virtualized SharePoint farms
- Gain access to specific design criteria for sizing a SharePoint farm and providing for high availability for all components
- Get information to be able to build the "perfect" highly available, high-performance and scalable SharePoint 2010 environment that will stand the test of time

Level: Advanced
Audience: IT Pro Essentials

Building Silverlight Applications for SharePoint

Steve Pietrek

SharePoint is an excellent platform for hosting line-of-business applications. Site administrators can build applications in the browser or SharePoint Designer. When little or no-code applications do not meet the business requirements, SharePoint developers can create advanced applications that are deployed to the SharePoint Server. However, many companies have a governance policy in place where only top-of the-pyramid, enterprise-level applications can be deployed to the SharePoint Server, but what about those applications for the lower part of the governance pyramid (i.e. team sites)? The new SharePoint 2010 Sandbox helps, but the cost of entry for developers is high.

Attendees of this session will learn how Silverlight can be used to integrate rich, powerful applications into SharePoint. The session will discuss the benefits of Silverlight, including lower cost of entry for developers, increased productivity compared to traditional SharePoint development, and the ability to deploy Silverlight applications through the browser without deploying to the SharePoint Servers.

The session will then walk through Silverlight basics (XAML, styles, layouts, and application settings), retrieving data from SharePoint lists and document libraries using the Client Object Model, managing code using the MVVM development pattern, and deploying the Silverlight controls to SharePoint.
Level: Advanced
Audience: Developer Essentials

Real World Social Networking Adoption Strategies Leveraging SharePoint 2010

Shadeed Eleazer

Implementing a successful corporate social networking governance plan has become a necessity for organizations seeking to leverage the enterprise features of SharePoint 2010. In this session, attendees will gain an understanding of how collaboration impacts social networking, and the methods for ensuring successful social networking adoption, both internally and leveraging popular platforms for business usage. This session will:

- Review key enterprise features and deliver strategies for increasing user adoption based on case studies and real-world examples
- Explain the importance of creating social networking policies and guidelines, leveraging examples from various business sectors
- Discuss key strategies for implementing social networking into training, documentation, and Knowledge Management
- Facebook now or later: Attendees will be equipped with tools to prioritize key SharePoint social networking features to ensure adoption
- Explain the roles that site owners, power users, and management play in the enterprise rollout of a corporate social networking strategy

Level: Intermediate
Audience: Line of Business Essentials

SharePoint Street Smart—Delivering Content to Mobile Devices & Tablets

Kenneth Lo

With the new mobile features of SharePoint 2010, the line between working from your desk and working remotely has blurred significantly, and is finally reaching a point of convergence. In this session, we will discuss the mega industry trends and viable SharePoint mobility strategies. A live demo will showcase SharePoint functionalities, such as collaboration, business intelligence, and/or business process management, on mobile devices (smartphones and tablets).
Level: Intermediate
Audience: Architecture Essentials, IT Pro Essentials, Line of Business Essentials

Business Connectivity Services—Beyond the Beginning

Brett Lonsdale

This is a fast-paced session providing you with a lightning tour of BCS and the benefits that it can provide your organization. After the overview of BCS, we will quickly dive into advanced topics surrounding the connectivity to external data sources using both SharePoint Designer 2010 and Visual Studio.NET 2010 Professional. Many of the "gotchas" will be explained, as well as tips around performance and security improvements that you can make to your BCS solution.
Level: Intermediate
Audience: Developer Essentials

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Gaining Total Control of Your Sites with Data View Web Parts

Dustin Miller

You know you want it: total and complete control over the HTML that SharePoint renders for your content. Semantic code. Maybe, if you're feeling adventurous, some HTML5. Well, the Data View Web Part is the tool for you. This session shows you how to impose your will on Web Part markup, and will give you the tools you need to create highly customized sites without worrying about upgrade woes or installing any code to your server.
Level: Advanced
Audience: Developer Essentials

Community Maturity Model and Framework: Get the Most from Your Social Media Efforts

Mark Miller

Sadie Van Buren has done a tremendous job mapping out the SharePoint Maturity Model. It has been dispersed community-wide as a verified way to measure the effectiveness of your SharePoint implementation. Now, what if we could do the same type of thing for community and social media efforts?

In this session, the instructor will cover the Community Maturity Model and Framework, making it available as a way to gauge the progress of your community and social media efforts. Research and feedback from some of the industries most knowledgeable sources, including input from Sadie Van Buren, will be included as part of the presentation.

The four sections of the framework include:

- Content Management
- Content Ownership
- SEO – Driving Visibility
- Social Visibility

Each area is set within a standalone, graduated matrix for positioning your company within a community through social media efforts. At the conclusion of the session, you will receive a copy of the framework and a white paper describing the resources and contacts used for creating the model.

This session will help you focus on what is needed to create visibility through a structured marketing message built around social media. The people who will benefit most are project managers, community managers, marketing managers and community evangelists.
Level: Intermediate
Audience: Line of Business Essentials

Faculty Bios

Owen Allen

Owen works with SharePoint partners to help enable them within the SharePoint arena. Owen has spent the past eight years working at Microsoft as a SharePoint Product Manager and a SharePoint Technology Specialist, and has spoken at SharePoint Conference 2009 and Microsoft Worldwide Partner Conferences. Owen has over 15 years in the ECM and solution development space, and is fascinated by the vast potential that SharePoint enables for businesses around the world.

Chris Beckett MCM

Chris is a Microsoft Certified Master and has 20 years of experience leading the development of enterprise business solutions using rapid application development tools and techniques. He has been a dedicated SharePoint specialist since 2003, with expertise in enterprise infrastructure and deployment planning, business automation solutions development, information architecture, and knowledge management. He is an active blogger and author, and a frequent speaker at user groups and professional organizations. Chris lives with his wife in Seattle.

Robert Bogue MVP

Robert has contributed to more than 100 book projects and numerous publishing projects, and has also authored his own book, "The SharePoint Sheperd's Guide for End Users." Writing about topics from networking and certification, to Microsoft applications and business needs, Robert blogs at www.thorprojects.com/blog.

Christian Buckley

Christian helps drive partner and community development for Axceler, and he previously worked at Microsoft as a Senior Program Manager on the enterprise hosted SharePoint platform team (now part of BPOS). Prior to Microsoft, he was managing director of a regional consulting firm in San Francisco's East Bay, participated in several startups, and worked with IBM, HP, Cisco, Matsushita, Solectron, Seagate, and other large hi-tech and manufacturing firms to deploy collaboration and supply-chain solutions. Christian is co-author of three books on IBM Rational Software configuration management and defect tracking solutions, and he can be found online at www.buckleyplanet.net.

Liam Cleary MVP

After 12 years in the IT industry, Liam became a consultant for SharePoint. Afterward, he became principal consultant for .NET development and collaboration within BT Lynx in the U.K., and he now works as a solution architect for SusQtech in Virginia, primarily working with non-profits and associations. His core focus as a solution architect is to ensure that SharePoint can either natively, or with minimal customization, meet the business requirement.

Liam is also a four-time SharePoint MVP focused on architecture, but also crosses the boundary into development. He is passionate about all aspects of the SharePoint platform and loves to share the good word. He can often be found at user groups or conferences speaking, offering advice or just spending time in the community.

Dave Coleman MVP

With 20 years of working in the IT industry, and 13 of them in the education sector, Dave has worked with many versions of Windows Server, Exchange and SQL Server. Over the last few years, Dave has been specializing in SharePoint. He started with SharePoint Team Services back in 2003 through SharePoint Portal Server 2003. He moved on to SharePoint 2007 and is now focused on the latest incarnation of SharePoint 2010.

Andrew Connell MVP

Andrew is an author, instructor and cofounder of Critical Path Training, a SharePoint education-focused company. Andrew is a five-time Microsoft MVP and has contributed to numerous books over the years. In June 2008, he published "Professional SharePoint 2007 Web Content Management Development," the only book on the subject of developing Web-content management sites using SharePoint 2007.

Andrew has spoken on the subject of SharePoint development and WCM at various events and national conferences, such as TechEd North America & EMEA, SharePoint Connections, VSLive, and Microsoft's SharePoint Conference. Andrew blogs at www.andrewconnell.com/blog.

Brian Culver MCM

Brian is a SharePoint Solutions Architect for Expert Point Solutions in Houston, Texas. Brian is a Microsoft Certified Master (MCM) in SharePoint 2007 and a Microsoft Certified Professional Developer (MCPD). He has worked in the Information Technology industry since 1998 and has been working with SharePoint since 2005. Brian's deep expertise includes SharePoint, ASP.NET, SQL Server and Project Server. He has been involved in many large SharePoint implementations, including Internet and intranet sites, partner portals, enterprise content management and governance, and custom application integration and development.

Ben Curry MVP

Ben is a respected enterprise architect specializing in knowledge management and collaboration technologies. As a senior architect for Mindsharp, Ben shares his knowledge in training courses that cover the next generation of Microsoft products. Ben is the author or co-author of three books for SharePoint products and technologies, including "Microsoft Office SharePoint Server 2007 Best Practices." Ben has more than 15 years of experience designing, managing, implementing and securing data center IT solutions.

MCM – Microsoft Certified Master

This certification enables senior-level IT professionals to demonstrate and validate their technical expertise on Microsoft Server products with exclusive, advanced training and certification available only direct from Microsoft.

MVP – Microsoft Most Valuable Professional

These exceptional community leaders come from a wide range of backgrounds… who actively share their high-quality, real-world technical expertise with the community and with Microsoft.

Randy Drisgill MVP

Randy has more than 10 years' experience developing, designing and implementing Internet-based software for clients ranging from small businesses to Fortune 500 companies. Randy co-wrote "Professional SharePoint 2007 Design," and has worked on several SharePoint articles and white papers. Randy blogs at blog.drisgill.com.

Phill Duffy

Phill works for Lightning Tools Ltd with Brett Lonsdale and Nick Swan (MVP) as a SharePoint Developer. He has worked with SharePoint for three years, and has been involved in the Development of Web Parts and Tools centered on and around the BDC and BCS. Phill is currently the lead developer working on BCS Meta Man. He has also talked at San Diego and London Best Practices Conferences on the BCS.

Shadeed Eleazer

Shadeed's background spans 13 years of supporting the unique demands of federal and state government sectors. He is a U.S. Navy veteran with extensive background in cloud services support and implementation, configuration management, enterprise social networking governance, and third-party apps and solutions integration into the SharePoint platform.

His recent projects include supporting an initiative to establish Tennessee as the first SharePoint 2010-compliant state in the U.S. and the first SharePoint 2010 deployment in production for the U.S. Army.

Shadeed currently provides content for SharePoint Careers, which delivers career resources for today's top-notch SharePoint professionals. He is the author of "SharePoint 2010 Business Roles" and "The SharePoint Community Guide to Understanding Google Plus." Shadeed is also the cofounder of the Baltimore SharePoint User Group, and is a Microsoft Certified Technical Specialist in MOSS 2007 and WSS 3.0 Configuration.

Bill English

Bill is an industry leader, author and educator specializing in SharePoint products and technologies. As Chief Executive Officer of EBA Companies (Mindsharp and The Best Practices Conference), Bill draws on his experience in business management to teach and consult about mapping SharePoint features to business processes and information organization needs.

As a former psychologist in Minnesota for nine years, English uses his knowledge of human behavior to help companies implement change through software platforms. Microsoft has acknowledged Bill's professional contributions to the SharePoint community by awarding him the Most Valuable Professional award for 10 consecutive years.

Since 2000, Bill has authored 14 books on Exchange and SharePoint products, including the "Administrator's Companion for SharePoint Server 2010." Bill lives in Minnesota with his wife and two children, where summer is the six best days of the year!

John Ferringer

John is a SharePoint IT Pro with more than seven years of experience administering and supporting SharePoint technologies, and has worked in the information technology consulting industry for more than 13 years. He has co-authored two books on SharePoint, and is a Microsoft Certified Technology Specialist (MCTS) and a Microsoft Certified IT Professional (MCITP) for several Microsoft server products and platforms, including SharePoint 2007 and 2010, System Center Operations Manager 2007, and Hyper-V Server. John has worked with Microsoft Online Services (MSO) and the Business Productivity Online Suite (BPOS) since its initial beta release, and is a Delta Force Ranger for Office 365.

Richard Harbridge

For the past seven years, Richard has worked extensively with SharePoint as an end user, developer, administrator, architect, business analyst and consultant. In this time, he has defined, architected, developed and implemented well over 100 SharePoint solutions, from small implementations of WSS on a single server to more than 80,000 user implementations in international organizations.

Richard is passionate about technology and business challenges, and enjoys teaching, sharing and helping others through involvement with the community.

Dave Healy

Dave is an innovative solution designer with a vision for technology in the enterprise. Twenty years' experience delivering Enterprise Information Management solutions has informed his approach to design and implementation as an opportunity to create change, foster innovation and drive results.

An early adopter of SharePoint technologies, Dave has been helping customers address complex business challenges with SharePoint and related partner technologies since 2001. Dave's experience on both the SharePoint Server and SQL Server product teams at Microsoft brings added depth to his solution designs.

A passionate and articulate speaker, Dave draws from this invaluable experience to bring his seminars and workshops to life with practical, real-world insight and guidance.

Scott Jamison MCM

Scott is a managing partner at Jornata, a premier Microsoft-focused consulting and training firm based in Boston. Scott has extensive experience implementing business solutions using SharePoint technologies, and is one of only a handful of Microsoft Certified Masters for SharePoint in the world. He is a recognized thought leader, teacher and published author with several books, including "Essential SharePoint 2007" and "Essential SharePoint 2010." You can find his blog at www.scottjamison.com.

Todd Klindt MVP

Todd is a popular speaker and consultant specializing in SharePoint technologies for IT administrators. He contributed to the book "Real World SharePoint 2007: Indispensable Experiences from 16 MOSS and WSS MVPs." Read his blog at toddklindt.com/blog.

Kennth Lo

Kenneth (PMP, MCSD, MCTS) is a seasoned SharePoint evangelist and entrepreneur with extensive management consulting experience. His expertise includes SharePoint, mobility, business process management and social media. Being a risk-averse person at heart, Kenneth spends his leisure time mountain biking, rock climbing, and scuba diving.

Brett Lonsdale

Brett is a specialist in the Business Data Catalog for SharePoint 2007 and Business Connectivity Services in SharePoint 2010. Brett authored the "Developers Guide to SharePoint 2007 Business Data Catalog" and is also the co-owner of Lightning Tools, a SharePoint Web parts and tools company. Brett spends most of his time product managing the products that Lightning Tools produce with his business partner Nick Swan while, also providing technical BDC and BCS support to Lightning Tools customers. Brett is also the co-host for The SharePoint Pod Show. You can find Brett at his blog at lightningtools.com/blog.

Jennifer Mason MVP

Jennifer has spent the past several years providing consulting services around SharePoint technologies, and is currently working with the team at SharePoint911. Her focus has been on strategy, planning, governance and best practices for implementing business solutions using SharePoint technologies. Jennifer is also a founding member of the Columbus, Ohio SharePoint Users Group.

Sean McDonough

Sean is an MCPD, MCTS, and the co-author of both the "SharePoint 2007 Disaster Recovery Guide" and the "SharePoint 2010 Disaster Recovery Guide." Sean has worked with a number of Fortune 500 companies to architect, implement, troubleshoot, tune, and customize their SharePoint environments. He works as a product manager for SharePoint products at Idera, a Microsoft gold certified partner and creator of tools for SharePoint, SQL Server, and PowerShell. He can be reached through his blog SharePointInterface.com.

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"Best SharePoint conference I have attended."
—Majid Syed, Project Collaboration Manager, Jacobs

Chris McNulty

Chris leads the SharePoint practice at KMA, a Microsoft Gold Partner in New England. Chris has more than 20 years' experience in financial services technology at State Street, Santander, GMO and John Hancock/Manulife. A frequent speaker at conferences nationwide, he's the author of the "SharePoint 2010 Consultant's Handbook—A Field Guide to Managed Metadata Services," and the popular Microknowledge blog (blogs.kma-llc.net/microknowledge). Chris holds an MBA from the Carroll School of Management at Boston College in Investment Management and Corporate Finance, and is a Microsoft MSA, VTSP, MCSE and MCTS.

Dustin Miller

Just as comfortable training his dog as he is writing custom Web part, Dustin's style and demeanor make training fun and entertaining. He has been doing nothing but SharePoint since Office XP and SharePoint Team Services, and he loves to share those crazy and creative things that you never knew you could do with SharePoint. Dustin is the president and owner of SharePoint Experts Inc., a leading provider of SharePoint technologies and training.

Mark Miller

Mark is the founder and editor of EndUserSharePoint.com one of the world's most popular sites for SharePoint end users. He coordinates a group of a dozen contributing authors, managing the day-to-day aspects of editing and publishing content for the site. He also publishes a weekly newsletter and handles hundreds of questions weekly through the Stump the Panel: SharePoint Q&A Forum.

Faculty Bios

Michael Noel MVP

Michael is an internationally recognized technology expert, best-selling author and a well-known public speaker on a broad range of IT topics. He has written several major bestselling industry books that have been translated into more than a dozen languages. Significant titles include "Microsoft SharePoint 2007 Unleashed" and "Sams Teach Yourself SharePoint 2007 in 10 Minutes." Michael is a consultant with Convergent Consulting, located in the San Francisco Bay Area.

Ted Pattison

Ted is an author, instructor and co-founder of Critical Path Training, a company dedicated to education on SharePoint technologies. For the last six years, Ted has worked with Microsoft's Developer Platform Evangelism group and the SharePoint product team researching and authoring SharePoint training material for early adopters. Ted started working with SharePoint 2010 in August of 2008 and has since led a series of training classes, which he has already taught to hundreds of professional developers learning how to get started on building custom business solutions using the SharePoint 2010 platform.

Amanda Perran MVP

Amanda is a 10-year veteran of SharePoint, focusing on Information Architecture, Solution Design, Enterprise Content Management and Governance. She is a five-time recipient of the Microsoft Most Valuable Professional (MVP) Award for Microsoft SharePoint Server.

In addition to her volunteer work within the technical community, Amanda co-authored her third major book related to SharePoint: "Beginning SharePoint 2010: Building Business Solutions with SharePoint 2010," which focuses on using technology to support common business processes within organizations. Amanda is a regular speaker at industry events around the globe and has maintained a SharePoint-focused blog for the past eight years.

Steve Pietrek

Steve is the Raleigh/Durham Microsoft Practice Manager at Cardinal Solutions Group, a Microsoft Managed Partner, with offices in Cincinnati, Columbus, Charlotte and Raleigh. Steve is active in the SharePoint community through his blog, public speaking at user groups and conferences, MSDN, and Twitter. Steve's SharePoint and Silverlight blog can be found at: www.stevepietrek.com.

Eric Riz

Eric is the Executive Vice President of Concatenate, Inc., a software firm focused on maximizing SharePoint through product innovation and systems integration based in Toronto, Canada. He has worked with many Fortune 500 companies on their business productivity architecture and deployment plans to ensure they maximize the benefits of Microsoft technologies and successfully deploy their SharePoint-based solutions. Eric is a frequent contributor to the SPTech Report and cmswire.com. You can find his blog at www.ericriz.com.

Laura Rogers MVP

Laura is a Senior SharePoint Consultant at SharePoint911 and was recently recognized as a SharePoint MVP. She has six years of experience in SharePoint implementation, training, customization and administration, and has been a MCSE since 2000. Her focus is on making the most of SharePoint's out-of-the-box capabilities. She works extensively with SharePoint Designer workflows, InfoPath and Data View Web Parts. Laura's latest book on SharePoint 2010 is "Beginning SharePoint 2010: Building Business Solutions with SharePoint." Her blog is www.sharepoint911.com/blogs/laura.

John Ross MVP

John has more than eight years of experience implementing solutions for clients, ranging from small businesses to Fortune 500 companies, as well as government organizations. He has worked with all project phases, from analysis to implementation, and has been involved with a wide range of SharePoint solutions that include public-facing Internet sites, corporate intranets, and extranets. He is co-author of the book "MOSS Explained: An Information Worker's Deep Dive into Microsoft Office SharePoint Server 2007," and was a contributing author to "Professional SharePoint 2007 Design." You can visit John's blog at www.sharepoint911.com/blogs/john.

Peter Serzo

Peter is a published author of the "SharePoint 2010 Administration Cookbook," a founder of the SouthEastern SharePoint group, speaker, and works for High Monkey Consulting as a SharePoint Architect. Peter has been in the IT industry for 20 years. He has extensive experience with SharePoint implementing business solutions for several enterprise organizations over the past seven years.

Using a varied background, including a degree in English, Peter brings a fresh perspective to each engagement. Each session he presents is told in story mode in order to engage and educate. This type of communications presents SharePoint technology in an understandable format.

Jeffrey Shuey

Jeff is a veteran in the Enterprise Content Management industry. Over the past 20 years, he has worked with customers and partners to design, develop and deploy solutions around the world. His work spans CRM, ERP and other LOB systems with a focus on the business aspects of utilizing enterprise content to drive both social and system alignment. Jeff is currently the Director of Business Development for the Kodak Document Imaging division. He has worked for Microsoft, FileNet, K2, Captaris, Open Text and Kofax. He speaks and blogs about ECM, SaaS and Cloud Computing, and how companies are putting these tools to work in their businesses.

Eric Shupps MVP

Eric is a SharePoint Server MVP, and the founder and president of BinaryWave, a global provider of SharePoint managed services. Eric has worked with SharePoint products and technologies since 2001 as a consultant, administrator, architect, developer and trainer. He is also a sponsor of the Dallas/Ft. Worth SharePoint Community group, participating member of the UK SharePoint User Group, and president of the International SharePoint Professionals Association.

Eric has authored numerous articles on SharePoint, speaks at user groups and conferences around the world, and publishes a popular SharePoint blog at www.sharepointcowboy.com.

Heather Solomon

Heather is a Web designer with more than 10 years of experience designing and deploying online applications and sites. Specializing in SharePoint branding, layout and usability, she has extensive experience with SharePoint technologies and Web-content management. Heather is the director of Creative Services and senior trainer at SharePoint Experts, and delivers training, branding and consulting services to help corporations maximize SharePoint's potential. She authored and teaches the "SharePoint Branding Bootcamp." Considered by many to be THE industry expert in SharePoint branding, Heather shares her knowledge in a laid-back way, and knows how to make SharePoint look like anything but SharePoint!

Paul Swider

Paul is an Enterprise SharePoint Architect for OnClick Solutions. With over 15 years of software consulting experience, Paul has trained thousands of students, developers and architects. Paul's specialties include enterprise SharePoint deployment and development, .NET development, SQL Server, Business Intelligence, BizTalk Server 2006, and Windows Workflow Foundation.

Craig Trulove

Based in Atlanta, Craig is Senior Infrastructure Consultant for Northridge, a Microsoft Gold Partner. He has been architecting, implementing, and administering enterprise-level SharePoint environments since SharePoint Portal Server 2003. He is a regular speaker at technology events on both SharePoint and PowerShell, an enthusiastic speaker, and is recognized as an evangelist of SharePoint automation with PowerShell. Craig's SharePoint and PowerShell blog can be found at ctrulove.blogspot.com.

Sadie Van Buren

Sadie is a Senior Software Engineer at BlueMetal Architects, based in Watertown, Mass. She designs SharePoint solutions and leads deployments, with a strong focus on strategy, usability, information architecture, and business process improvement. Sadie has a Bachelor's degree from Wesleyan University and a

Check the website for more classes and speakers!

Certification in Project Management from Boston University, and is a Microsoft Certified Technology Specialist.

She is a member of the Boston Area SharePoint User Group, the Boston Knowledge Management Forum and the Boston chapter of SIKM (System Integrator Knowledge Managers). She is the creator of the SharePoint Maturity Model, and blogs about SharePoint and technology at amatterofdegree.typepad.com.

Geoff Varosky

Geoff is the Director of Development and Evangelism for Jornata, a Microsoft Gold Partner focusing on SharePoint solutions based out of Boston, Mass. He has been architecting and developing Web-based applications for over 13 years, and has been working with SharePoint for the past six years. Geoff is an active member in the SharePoint community, cofounder and co-organizer of the Boston Area SharePoint Users Group, co-organizer for SharePoint Saturday Boston, and speaks regularly at SharePoint events and user groups.

Derek Weeks

Derek joined OpenText in 2009, bringing more than 18 years of product management and marketing experience in the enterprise software market. As Senior Director of BPM Corporate and Product Marketing, Derek is responsible for the commercialization and marketing strategies of OpenText's BPM and Case Management Solutions. You may also know Derek as the author of the semi-annual "How are businesses using SharePoint?" survey.

Prior to joining OpenText, Derek held executive and senior management positions at Hewlett-Packard, StorageTek (now Sun Microsystems), Hyperformix (now CA), and Systar, successfully launching new enterprise software solutions to market for portfolios ranging from $12 million to over $1.5 billion.

Christina Wheeler

Based in Philadelphia, PA, Christina is a SharePoint Trainer for Mindsharp and founder of CM Portal Solutions, LLC. She is a highly respected SharePoint consultant who is extremely active in the SharePoint community. With over 10 years of experience in the industry, Christina has knowledge in graphic design, Web development and custom development with her work primarily targeted toward educational and financial institutions.

As a trainer, Christina brings her real-world experience to the classroom. Christina was the Tech Editor of "SharePoint 2007 Developer's Guide to Business Data Catalog," and continues to edit books for various publishers and authors. She enjoys contributing articles to technical websites and often speaks at SharePoint community events and conferences.

Rob Windsor MVP

Rob is a developer, trainer, writer and Senior Consultant with ObjectSharp Consultin—a Microsoft Gold Partner based in Toronto, Canada. He has over 15 years' experience developing rich-client and Web applications with Delphi, VB, C# and VB.NET, and is currently spending a majority of his time working with SharePoint. Rob is a member of the INETA Speakers Bureau and is a regular speaker at conferences, code camps, and user groups across North America and Europe.

He also regularly contributes articles and videos to MSDN, TechNet, and the Pluralsight On-Demand library, and is the co-author of "Professional Visual Basic 2010 and .NET." Rob is President of the Toronto Visual Basic User Group and has been recognized as a Microsoft Most Valuable Professional for his involvement in the developer community.

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Shane Young MVP

Shane is president and principal consultant at SharePoint911, with more than 13 years of experience architecting and administering large-scale server farms using Microsoft enterprise technologies. He has been recognized by Microsoft as an authority on SharePoint and is among an elite group of SharePoint MVPs. Shane has written three SharePoint 2007 books and maintains the popular SharePoint Farmer's Almanac at msmvps.com/blogs/shane.

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Contact Stacy Burris, Event Director at sburris@bzmedia.com or +1-631-421-4158 x108.